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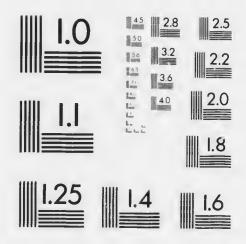
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With Valuable Information on Parrots and other Cage Birds.

BY JAMES NICHOLSON

REVISED AND ENLARGED

FOURTH EDITION

PUBLISHED BY

NICHOLSON & BROCK

1918

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2500 First Edition 1899
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Entered according to Act of Parliament of Canada in the year one thousand nine hundred and eighteen, by Nicholson & Brock, in the office of the Minister of Agriculture.

PREFACE TO THE FIRST EDITION.

Prefaces are rarely read, therefore this will be brief. Being large dealers in Bird Foods, and having a business that extends from Halifax to Vancouver, we are frequently asked for a book on the treatment of Cage Birds in general, and Canaries in particular, and not knowing any book of the kind in Canada that was written to supply the popular demand, we have done our best to fill what we believe to be a long-felt want.

Besides relating our own experience, we have not hesitated to consult the best British works of authority and are particularly indebted to "Dyson's Book on Birds" and "Cassell's Canaries and Cage Birds," the latter being an expensive work and rather beyond the limited means of many of our inost enthusiastic breeders. We have noticed that many different dealers have issued books treating on cage birds, and have drawn largely on both these works, but have not thought fit to give the credit where it was due.

Only fragments of time in a busy business life have been devoted to this work, and no claim is made to literary style, but if the book is a real help to the public generally—and perhaps some of the more experienced bird fanciers may find it useful—we will consider that our labour has not been in vain.

MICHOLSON & BROCK.

Toronto, Canada. 1899.

PREFACE TO THE FOURTH EDITION

Brock's Book on Birds having passed through three editions, shewing that eight thousand five hundred have been sold in Canada from the Atlantic to the Pacific, and being practical evidence of its value to the bird-loving public, the writer thought, as the demand continues to increase, it would be well to revise and enlarge the work.

He does not lay claim to any originality in the book. Besides the works consulted for the first edition, he is particularly indebted to the well-known English authority Mr. John Robson (a writer in "The Feathered World") in his book on "Canary Management."

To meet the lapse of time and the progress of the study of the Canary, this fourth edition has been thoroughly revised, numerous additions have been made, and fresh illustrations given, so as to bring it right up to date. That the book may continue to be even more helpful to those who consult its pages, than it has been to the thousands who have referred to it in the past, is the sincere wish of the anthor.

JAMES NICHOLSON.

Toronto, Canada. 1918.

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Now in index learning turn no student pale, Yet holds the eel of science by the tail.

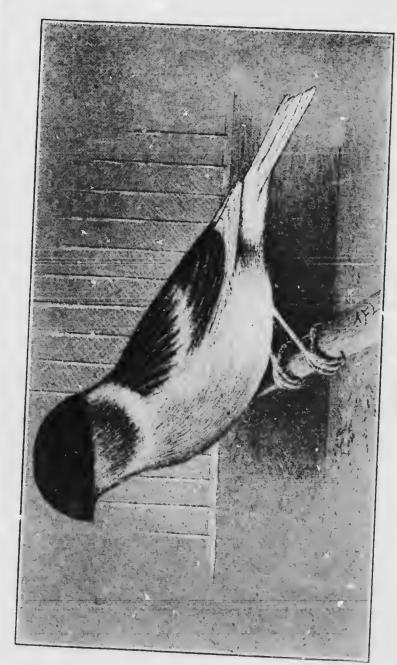
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CRESTED CANARY

MY BIRD.

I wish you could see my dear little bird, He's the sweetest singer you ever heard; If things go right, or if things go wrong, He is just so happy all day long.

You would laugh, I know, to see him bathe: No labour or water does birdie save, He'll duck in his head, how the water will fly All round and above him ever so high.

When he is clean he will hop on his swing, [sing, And smooth down his feathers, and then how he'll Sing all day long, till we shut out the light, Then he is quiet, and thinks it is night.

He teaches a lesson some never learn, "Make others happy" if you would earn Joy for yourself which will not depart, The joy of a loving, muselfish heart.

- Carley.

THE CANARY.

The origin of this famous songster, which delights the homes of many millions in nearly every part of the habitable globe, and is so greatly prized for its excellence of song, its symmetry of form, its beautiful plumage, its pleasing disposition, its aptness for learning, and the readiness with which it breeds in confinement, was the islands from which it derives its name. The Canary Islands are a small group,

in the Atlantic Ocean, 27° to 33° north latitude, and being situated in the southern part of the north temperature zone they enjoy through the year a mild and pleasant climate. The native bird is chiefly found in the mountainous districts, where an abundant supply of trees and flowers favour his existence. His home is sometimes as much as five or six thousand feet above the level of the sea.

The wild birds mate generally about the latter part of March, and the nest is never found less than eight feet from the ground, but often a greater height. A tall sapling of the evergreen species or such as produce their foliage at an early season is always selected for the nest. The female bird usually lays five eggs (one each day) the colour of which is a pale sea-green with reddish-brown spots. During the period of incubation, which is generally thirteen days, the male bird takes his position near the nest, and with his charming melody cheers the female, as with a mother's patience she sacrifices her own enjoyment to the welfare of her future offspring. The young are fed by both parents and never leave the nest until fully fledged, and even then the affectionate parent does not cease his eare, but continues to watch over and feed them for some time.

Whilst the singing of the wild bird is similar to that of its domesticated relation it cannot be

denied that the latter has greatly improved his song from listening perhaps to the warbling of other birds.

It was about the beginning of the sixteenth centure that the canary became first known in Europe, when a ship having a large number on board and bound for Leghorn was wrecked on the coast of Italy. The birds having regained their liberty, flew to the nearest land, which happened to the island of Elba, where they found so mild a climate that they built their nests there, and became very numerons. But the desire to possess such beautiful songsters led to their being hunted after, and it is in Italy we find the first tame canaries, and here they are still reared in great numbers.

So attractive has been found the canary on account of its pretty form and charming qualities of its mind that it is now kept and reared throughout the whole of Europe, Australia, and North America. Indeed, the qualities of its mind are as varied, or even more so than its phummage, for amongst them it has been discovered, as amongst quadrupeds, and even men, some individuals are gay, and others melancholy; some quarrelsome, others mild, some intelligent, others stupid; some with quick memories, others lazy; some greedy, others frugal; some petulant, others gentle; some ardent, others cold.

The green bird of the Canary Isles has become greatly altered in plumage by a long course of cross-breeding, but the original colour still appears in many of the birds bred in England and Canada, and are generally regarded as the strongest birds. In Europe, where the breeding of birds is reduced to a science, some thirty varieties of the Canary are recognized. Beneath we give a schedule of a Canary and Cage Bird Society held in Toronto, from which the reader will get some idea of the different varieties of Canaries bred in Canada:

SCHEDULE OF CLASSES

- 1. Belgians, yellow or yellow marked.
- 2. Belgians, buff or buff marked.
- 3. Belgians, yellow or yellow marked Hen.
- 4. Belgians, buff or buff marked Hen.
- 5. Scotch Fancy, clear yellow.
- 6. Scotch Fancy, yellow piebald.
- 7. Scotch Fancy, clear buff.
- 8. Scotch Fancy, buff piebald.
- 9. Scotch Fancy, Hens, clear yellow.
- 10. Scotch Fancy, Hens, yellow piebald.
- II. Scotch Fancy, Hens, clear buff.
- 12. Scotch Fancy, Hens, buff pichald.

- 13. Scotch Fancy, green yellow.
- 14. Scotch Fancy, green. buff.
- 15. Scotch Fancy. stock pairs.
- 16. Norwich, clear yellow.
- 17. Norwich, yellow marked.
- 18. Norwich, clear buff.
- 19. Norwich, buff marked.
- 20. Norwich, Hens. yellow.
- 21. Norwich, Hens, yellow marked.
- 22. Norwich, Hens. clear buff.
- 23. Norwich, Hens, buff marked.
- 24. Norwich, green, yellow.
- 25. Norwich, green, buff.
- 26. Norwich, stock pairs.
- 27. Norwich, cinnamon, yel-

- 28. Norwich, cinnamon, yellow marked.
- 29. Norwich, cinnamon, buff.
- 30. Norwich, cinnamon, buff marked.
- 34. Norwich, cinnamon, Hens, yellow.
- 32. Norwich, cinnamon, Hens, yellow marked.
- 33. Norwich, cinnamon, Hens, buff.
- 34. Norwich cinnamon, Hens, buff marked.
- 35. Yorkshire, clear yellow.
- 36. Yorkshire, yellow mark-
- 37. Yorkshire, clear buff.
- 38. Yorkshire, buff marked.
- 39. Yorkshire, Hens, yellow.
- 40. Yorkshire. Hens, yellow marked.
- 41. Yorkshire, Hens, buff.
- 42. Yorkshire, Hens, buff marked.
- 43. Yorkshire, green, yellow.
- 44. Yorkshire, green, buff.
- 45. Yorkshire, stock pairs.
- 46. Yorkshire, cinnamon, yellow.
- 47. Yorkshire. cinnamon, yellow marked. 48. Yorkshire. cin
 - cinnamon, buff.
- 49. Yorkshire. cinnamon, buff marked.
- 50. Yorkshire, cinnamon. Hens, yellow.
- 51. Yorkshire, cinnamon, Hens, yellow marked.
- 52. Yorkshire, cinnamon, Hens, buff.
- 53. Yorkshire, cinnamon. Hens, buff marked.
- 54. Crested Norwich, yellow or yellow marked.

- 55. Crested Norwich, buff or buff marked.
- 56. Crested Norwich, Hens. vellow or yellow marked.
- 57. Crested Norwich, Hens, buff or buff marked.
- 58. Crested, a.o.v., yellow or yellow marked.
- 59. Crested, a.o.v., buff or buff marked.
- 60. Grey Crested, any variety.
- 61. Crested cinnamon or cinnamon marked.
- 62. Crested, stock pairs.
- 63. Crestbred Norwich, yellow or yellow marked.
- 64. Crestbred Norwich, buff or buff marked.
- 65. Crestbred, a.o.y., any color.
- 66. Crestbred, Hens, a.o.v., any color.
- 67. Crestbred, cinnamon or cinnamon marked.
- 68. Lancashire, plainhead. yellow.
- 69. Lancashire, plainhead, yellow marked.
- 70. Lancashire, plainhead, buff.
- 71. Lancashire, plainhead, buff marked,
- 72. Lancashire, coppy, yellow.
- 73. Laucashire, coppy, yellow marked.
- 74. Laucashire, coppy, buff.
- 75. Lancashire, coppy, buff marked.
- 76. Lancashire, plainhead, yellow, Hen.

- 77. Laneashire, plainhead, yellow marked, Hen.
- 78. Laneashire, plainhead. buff, Hen.
- 79. Laucashire, plainheau, buff marked, Hen
- 80. Laueashire, coppy, yellow, Hen
- 81. Laucashire, coppy, yellow marked, .len.
- 82. Lancashire, coppy, buff, Hen.
- 83. Laucashire, eoppy, buff marked, Hen.
- 84. Laucashire, stock pairs.
- 85. Lizards, clear cap gold.
- 86. Lizards, clear cap, silver.
- 87. Lizards, broken gold.
- 88. Lizards, broken cap,
- 89. Border Fancy, yellow or yellow marked.
- 90 Border Fancy, buff or buff marked.
- 91. Border Fancy, Hens, yellow or yellow marked.
- 92. Border Fancy, Hens, buff or buff marked.
- 93. Roller, yellow.
- 94. Roller, yellow marked.

- 95. Roller, buff.
- 96. Roller, buff marked.
- 97. Roller, green.
- 98 Roller, cinnamon, yellow.
- 99. Roller, cinnamon, yellow marked.
- 100. Roller, einnamon, buff.
- 101. Roller, cinnamon, buff marked.
- 102. Green, for color, any
- 103. Display of eight eanaries of any one type in one cage.
- 104. Rollers, to be judged for song.
- 105. Colour, Fed. a.v. 106. Mules, light.
- 107. Mules, dark.
- 108. Goldfinch, British.
- 109. Goldfineh, Russian.
- 110. Bullfinch, British,
- 111. Bullfineh, Russian.
- 112. Linnet.
- 113. Redpoll.
- 114. Thrush.
- 115. Parroquet.
- 116. Parret.
- 117. A.O.V. cage bird.
- 118. Collection of Wild Birds.

A.V. means "any variety," and A O.V. "any other variety."

We now turn to a description of the different varieties of the Canary.

The entire canary family is divided into two colour classes, yellow and buff, which are synonymous with the terms jouque and mealy; but inasmuch as these terms do not express the real colour, they must be regarded as purely

technical. For example, we speak of a yellow green or a buff green, a yellow cinnamon or a buff einnamon, when it is easily seen that neither green nor cinnamon can be either yellow or buff really, and the words, therefore, taken in their general application are technicalities. The explanation is simple, whatever is the body eolour of the canary, whether it be literally green, yellow, or cinnamon, or whether it be a lizard, it has two forms in which it manifests itself. One is bright, and for want of a better term, we will say luminous, polished and glittering; the other dull and flat, and is, by comparison, what frosted silver or dead gold is to the burnished metal. The first is the yellow form and the other buff; and one or the other presents itself in every canary or canary hybrid.

THE BELGIAN CANARY,

The Belgian Canary, so called because originally from Belgian. A fancier should not enter on Belgian breeding without three qualifications, viz., ability to put up with disappointment; perseverance; and great gentleness. Whoever ean breed Belgians can breed any kind of Canary. The naturally nervous character of the old birds is apparent in the young, in addition to their being very delicate as nestlings. This delicacy

of constitution seems to pass away after they have moulted away their nest feathers; but till that period is safely passed they require the very greatest care.

In breeding, the birds selected should be of good length. The back should be broad and full. There is always a sort of furrow between the shoulders when the birds are worked into position, but get those as well filled in as possible. Some old breeders designate this, "well padded between the shoulders." A niee square shoulder is also desirable; as is also good length of wing and tail. As length of wing adds to the length of side—see that the hen has a long, nicely tapered, slender neck and good depression of head. Have these two characteristics in both birds if you can; but if you have it well developed in the hen you could sacrifice it (if unavoidable) to an extent in the male to get plenty of frame and size of body in him. The chest should be a sort of an elliptical oval, sloping from the ribs and eollarbone to the breast bone, with a graeeful sweep towards the tail. The legs should be straight and long and the thighs well eovered with body feather. and elaws of a high bred bird are most finely shaped, and are a good test by which to judge what the birds' aneestors have been,



BELGIAN CANARY.

The tail should gradually taper to the end and fall in a straight line with the back and wings from the shoulder; if anything, with the slightest tilt outwards, but straight for preference. When in position, the legs should be well under the body, in a straight line with the shoulder. The food and water vessels should always be near the perches, never at the bottom of the cage.

Belgians will not stand handling, therefore there should be large doors at each end of the upper part of the cage, so as to easily run the bird through to another cage when necessary.

A Belgian male should never be run with more than two hens, and should be well fed up before the breeding season and not go to a show for at least six weeks before he is paired.

Some Belgian hens are not good mothers, so always be prepared with foster mothers. Many breeders always set their Belgian eggs under common canaries; but in Belgiam thousands of Belgian hens bring up their own young.

THE SCOTCH FANCY CANARY.

This is the national canary bird of Scotland and at one time it was the bird chiefly bred in that country. To-day, however, the Scotch Fancy has not the sway in the land of its birth it used to have, other varieties being extensively bred. In shape the body should incline to

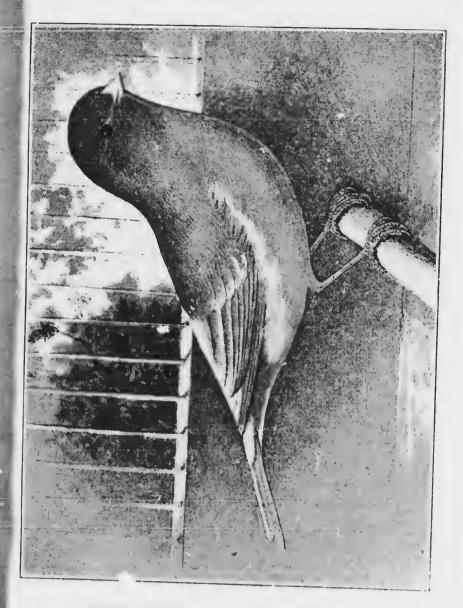
that of the moon in its first quarter, with good, prominent, narrow, well-filled shoulders, the neck of good length and finely tapered; head small and neat, and brought well down similar to a Belgian; the body should be of good depth through from shoulder to breast gradually tapering off to a fine waist. The legs of fair length and well bent into the body, the tail curving nicely in toward the perch. Size is of great importance combined with the points we have just given, therefore, when choosing the breeding pairs, always select birds of good length. If the hens run a little fine in bone and are slightly under size, pair them up to large framed, strong-boned males, as you will then retain good size in the young ones. Likewise, if you have a good bird, except that it might have a little more shoulder, the one you pair it with must have very prominent shoulders. some birds, and well bred ones too, run a little short in the neck. The partners for these must have good length of neck, and in like manner, if you have a bird that is a little thin at the breast pair it to a bird with good depth of breast and regulate your selections. A prominent breast is a feature in a Belgian, but not so in a Scotch Fancy.



SCOTCH FANCY CANARY.

THE NORWICH CANARY.

The Norwich Canary stands at the head of colour group canaries, and is perhaps the most general favourite of the entire tribe, certainly the most extensively bred, both in England and Canada, being the embodiment of the popular idea of the bird, and the chief source from whence springs three-fourths of the home cage birds in the Dominion. It is easily recognized as a brilliautly-illuminated edition of the yellow, every-day canary, and takes its name from the city of Norwich, England, in which it has for generations been cultivated, it is a plump, chubby bird, as opposed to length and slimness; stontly built and of bold carriage; quick and active in its movements and lusty in its song, and when at rest stands at an angle of about forty degrees, measured from a base line drawn from the tip of the tail. The head should be broad across the skull, and inclined to be flat rather than high and round. A bird with a small narrow head shows to poor advantage and has a curious expression when facing you, giving one the idea of being out of drawing. richest colour is found on the crown, and the larger the surface the better the effect. No idea of coarseness should attach to it, but neatness and elegance and delicate feathering should be its characteristics; coarse feathering and over-



NORWICH PLAINHEAD CANARY.

hanging eyebrows indicate a cross in the direction of size not bred out. The eye is dark, full, bright, and sparkling; the beak a clear pinkish white and free from discolouration, though the whole or half of the upper mandible is sometimes dark, and although this is no disqualification, yet, everything else being equal, the elear beak would win. The neck is inclined to be short, the under part forming in profile a perfect line of beauty with the breast, which sould be broad and full and feathered as smoothly as it is possible to conceive. The back is broad, rising very slightly immediately after the juneture with the neck, forming a very delicate curve, and must show most compact feathering without the slightest disposition to open in the middle, which is not an uncommon feature in some varieties. The wings must be firmly closed without a symptom of drooping and tucked in close to the body. The shoulders should be well covered and show no projection of any kind, the feathering throughout the whole of this part being of the closest possible character, compactness being most necessary condition for the exhibition of colour.

The thighs should be well covered with silky "fluff" right down to the hocks. The legs, toes, and claws should be free from all defects. The Norwich canary is a jolly, comfortable sort of

bird, and is not a large one, though size has its value when combined with colour and quality displayed in excess, a combination very rare.

CRESTED NORWICH.

Crested Norwich is an offshoot of the Norwich, and takes its name from the topping or crest which adorns its head. All the properties which become the Norwich canary should be found in the erested variety of the same family in as great degree as possible, always remembering there must be good crest. In shape it should as nearly as possible be circular in form, though such are rare, most of them being elliptical. In size it should extend in front over the greater portion of the beak, the circumference passing round to the back of the head in the plane of the eyes, which should be almost, if not entirely hidden, giving the bird an arch expression. The chief thing about a crest is its size and shape—colour is an after consideration. Size depends upon the length of feather, shape upon its distribution. A small crest will make any head look mean and spare, but a small head can carry a large erest. The most beautiful forms of erest are the long, wide, flat, silky feather type. (See frontispiece.)



CREST-BRED CANARY.

CREST BRED NORWICH.

Crest bred Norwich is a bird bred from one parent that is crested and the other plain-headed, but with crested blood in it. The same should be large and bold, with an abundance of long feathers. If a show specimen, it should have a large head, and the feathers, although smooth on the top, should be long; such, of course, commands a fair price, although nothing like the crested.

THE LIZARD CANARY.

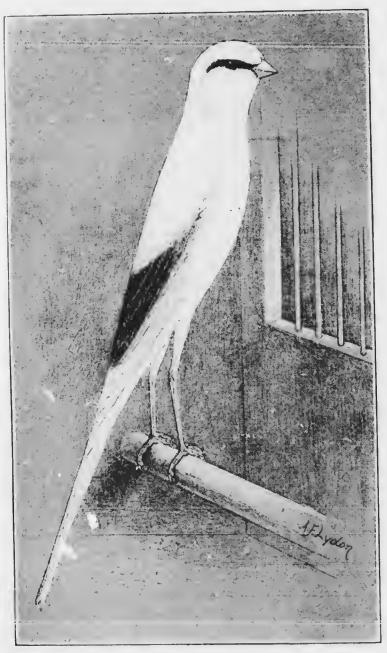
The Lizard Canary has been named we think from the striking resemblance its glittering phimage bears to the back of its scaly prototype. In size it is rather smaller than the average run of Norwich birds. There are the Golden Spangled and Silver Spangled Lizards. The golden bird is not really of a yellow or gold colour, but is rather, as regards what is called its body colour, a rich dark bronzy yellow, and the richer, warmer, and purer the tone of this bodycolour the more valuable it is. The head is one of the most important features of a good Lizard, and while having extreme neatness and finish must also have a good width of skull in order that it may show to the greatest advantage, what is held by many fanciers to be the greatest ornament of the bird, viz., the cap, which in a Golden Lizard is a patch of pure yellow, and in



CLEAR CAPPED LIZARD CANARY.

a Silver, a pure buff, covering the crown. The general appearance of a Lizard is dark and he belongs to a dark-flue school; light points are as a matter of contrast objectionable; as a matter of breeding still more so. Dark beak, dark legs, and ebony claws are the correct thing for a Lizard; they are his hat, gloves, and boots—things some people do not care about we do. He should be a perfect gentleman in all the details of his dress. There is a fitness in things: sheep-skin kid gloves, sizes too large, and seditions looking boots spoil the best costume. In breeding, pair gold with silver always, and as a rule, one should be clear-capped and the other broken capped. The gain from mating the golds may be set down as comprising improvement in colour and in brilliancy of spangle; the los falling off in size, want of compactness of feather and consequent lack of regularity in arrangement of spangle. As far as possible mate dark birds. Remember that dark feathers means dark spaugling, and that the Lizard will deteriorate in this respect quickly if encouraged. White beak, white legs, and white claws are frequently followed by white something else. The Lizard possesses its show plumage for one year only. The changes which take place at the first and second moults are these: In common with all others of the family, the bird casts its entire suit at the first moult except the flights and tail feathers, which retain their original dark hine while the body puts on its spangle, and it is then as we have said in its show dress. At the second moult the whole is renewed with a great alteration in character. The body-feathers become much lighter, the delicate marginal fringe turns paler in the gold, and whiter in the silver, and a general fading results. This takes place with all Lizards, but with some more than others.

Lizards for show purposes are divided into gold and silver spanglea, and these again into clear and broken caps. A perfect cap should be bounded by a line commencing at the top of the beak and passing over the top of the eye round to the back of the head in the same plane and returning the same way on the other side. It must not come lower than the top of the eye, and the boundary line at this part should be a hair line of clearly defined feathers; and intrusion of the surrounding feathers on the clear surface constituting what is known as a broken cap. Some Lizards are very fair songsters, but they cannot be recommended as first-class ones.



EVENLY MARKED YORKSHIRE CANARY.

THE YORKSHIRE CANARY,

The Yorkshire Canary is a smart, bold, defiant bird. The head should be round, of medium size, and narrow skull. The neck long and straight, between the neck and shoulders there must not be the slightest hollow of any kind, the shoulders beautifully rounded, well filled in, and narrow; long taper wings, the long flights tucked in closely and stowed away tip to tip at the end of a long, narrow back; the tail must be long, perfectly straight, narrow, and flat. The breast must be narrow and perfectly round, which taken in conjunction with the narrow shoulders means small girth, another important point. The Yorkshire is the "genteel" bird of the canary species and is a good hardy variety.

THE CINNAMON CANARY,

The cimamon canary is so called on account of its colour, resembling the ordinary cimamon in commerce. There are two types, the Norwich and Yorkshire, and there are both yellows and buffs. A good specimen should have no foul (white) feathers in it. There is also the Cimamon Green canary; i.e., a desirable cross with a Green canary and a Cimamon canary. These are useful for again crossing with a Cimamon to produce depth of colour. To improve size, a very close-feathered crested-bred is occasionally united to, and then crossed with Cimamon again and again.

LANCASHIRES.

This bird is the giant of the Canary family. Where he came from will ever remain an enigma. The late Mr. Blakston always maintained his ancestors were Dutchmen, and, if one may judge by the birds that are still bred in many Flemish towns, Mr. Blakston was not very far from the truth. There is, however, a very wide difference between the Lancashire bird of the present day and his Dutch relation, as the former is a much more sprightly bird and more elegantly shaped, the Dutchman being very lumbering in appearance in comparison.

This improvement in the Laucashire bird is, no doubt, due to having at various times been crossed with large Yorkshires and also with Norwich birds. The Laneashire strain having been thoroughly established, such crossings are not now necessary.

Lancashires are shown in two classes, viz., Coppies and Plainheads—the plainheads being the non-crested young of the coppies.

The appearance of these birds is majestie, with a consciousness that they are the royal family of the Canary tribe, at least in size. No doubt if they could speak, they would express the same opinion of a London Fancy that Goliath did of David. These birds are



LANCASHIRE COPPY CANARY.

best described as being of massive proportions everywhere.

In breeding this bird it is usual to pair a clear or ticked yellow coppy male to a clear buff plainhead hen; or a clear or ticked buff plainhead male to a yellow coppy hen, selecting birds of good length, somewhat erect in carriage and rather stout in build. The coppy should be large, well shaped and spreading with nice droop, and the plainhead should have a large broad skull which is usually a little oblong in shape. The body and head of both birds should be well clothed with dense, close feather of good length, and if one bird should be inclined to be a little short in leg, see that the other has good length of leg. In like manner counterbalance any other faults by having the wask points in the one well developed in the other. Size and substance of body are of the utmost importance in this bird, and on this account double buffing is often resorted to, as well as the above orthodox way of pairing. If a breeder's birds are losing size, or they are getting too thin in coppy, sometimes the pairing of two copies is resorted to with a view to increasing size and intensifying the density of feather in the coppy. So that when you find it necessary you must depart from the ordinary method of pairing to ob on the improvements

required, if you have not stock by which you can obtain them in the usual way.

The skull is broad and inclined to be oval, and it is only on such skulls that the magnificent crests of the present day can be earried; hence the cross with the Norwich, which has produced the beautiful crests we see at the different shows. The Norwich breeders may say what they like, but it is an incontrovertible fact that they have to go to the Lancashire birds to get the skulls on which to put their Norwich crests.

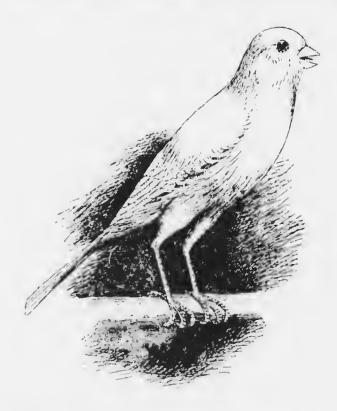
In the best prize birds the back is broad, full and straight, and the breast prominent and well rounded. The wings are not so well shaped as in many of the other kinds of Canaries, and frequently cross at the tips, partly due to their great length. The legs take somewhat after the Belgian as to position, and show about the same proportion of thigh. The tail should be straight, in a line with the back; but in very big birds it is apt sometimes to tilt inwards a little. The coppy crest should have a perfect centre, be horse-shoe in shape, the feathers lying close to the head. The front of a coppy should be nicely rounded with a good spread and droop, breaking off perfectly smooth and plain behind the eyes and round the back of head.

THE SONG BIRD.

Beside the pleasant window swings
My happy pet canary;
He answers to my call, and sings
With voice so loud and merry,
A prisoner? No; just hear his voice
Ring out its gay, glad story;
The brass cage is a royal home—
He loves to sing its glory.

-Anon.

Tims is what might in reality be termed the Pet Canary, for so many folk keep a canary purely for its song and that to brighten the home. The fact must, however, not be overlooked that there are in England now, a large number of fanciers who breed and teach the Song There is now a Bird for contest singing. Club which represents the bird and gets classes provided for it at many shows. The bird bred and used for this purpose is that known as the Roller Canary. It certainly heads the list of the Song Canary, their long deep tours and rolls being performed with wonderful precision and mellowness of tone. There are, of rourse good and bad performers in these just as there are good and bad points in other varieties. Many artians, as well as those well to do, keep one or two of these birds for their song alone. Others prefer a larger and richer coloured bird as a "Pet." for the Roller is of insignificant size and poor colour; these points having no importance for the contest singer, song being their one point. Those who prefer a good looking bird with which to brighten the



home, would doubtless prefer a Norwich if they like a thick set, chubby bird, or if a slim stylish bird then the Yorkshire would meet their requirements.

The chief centre on this continent for birds is New York. In organizing times thousands of cage birds are brought from Great Britain and the Continent of Europe, and many American birds are exported.

The Expless Companies bring thousands of birds across the ocean from Great Britain direct to Canada for dealers and breeders.

FOODS, ETC.

 $^{\circ}$ Feed me with food convenient for me.'' Prov. 30, S.

The food of canaries when in health should be plain, natural, and of good quality, avoiding a dangerous habit many have of feeding dainties. Butcher's me, t is not required for seed-eating birds. All birds like variety in their food, and although sugar and sweet cakes are forbidden, cracknels and plain bisemts are good as occasional luxuries. A little fresh green food now and then, but not too often, for it may do much harm when given when there is a tendency to diarrhea such as water-cress, chick-weed, groundsel, mignonette, etc. may be given. If lettuce be used it should be fresh young lettuce, for full grown lettuce is likely to be harmful, especially the white part near the root. In

winter a little sweet apple or boiled carrot can be given every other day. Garden cress is very good for them too, especially in cold weather, and as it can be grown in a saucer in the house, it provides them with a winter vegetable.

Nothing induces a hen to feed her young so well as a frequent supply of fresh green food. Giving green food and egg food constantly fresh is the great secret of getting strong, healthy irds. The making of the bird is the way it is fed the first twenty-eight days of its existence.

Always see the green food is fresh, take away the stale green food.

Do not give the birds dandelion as it makes the old birds rank and does not suit the young birds.

The chief food is eanary seed, millet seed, and sweet summer rape seed, mixed in quantities suitable for birds in this climate: about seven parts canary, two imported millet, and two sweet summer rape, and put up by some trustworthy house or firm (see advertisement at end of book), for very few people are aware how much a bird's health, and consequently its song, depends upon the selection of good seed. There are as many different kinds of seed as there are grades of butter or flour. Is all butter alike? Is all flour the same? If so, then all seed is alike.

Seed.—The best canary seed is CANARY grown along the coast of the Mediterranean Sea, Sicily, Spain and Turkey being the chief countries of production. There is practically no Sicilian seed sent to Canada and Spanish Canary Seed is better than Turkish. A very inferior kind is grown in Honduras and other parts of South America, but this should never be used. Good canary seed is a very bright, phump and heavy feeling seed, free from dust. If you thrust your hand into the seed and it comes back feeling dusty do not have the seed. The bird owner cannot be too particular about getting good clean seed, for the great mortality among birds is to be charged almost entirely to the cheap trashy seed with which the market is flooded.

Imported Millet Seed is the best and safest, That grown by the farmers here is of an inferior grade, the climate being too severe for it. All birds are fond of millet in the head, and it is a good plan to grow a small quantity of as good a quality as can be grown, and save the heads as soon as ripe, so that they can be put in the cage during the winter. Millet is the cheapest of all bird seeds and therefore used largely in cheap mixtures. Millet seed is white and yellow and both nutritious and birds thrive on some in the mixture.

Bud RWE Seed or summer rape seed often called German rape seed because a large amount was grown in Germany. Good, sound summer rape is a very small, plump, bright red maroon-coloured round seed, and when eaten has a sweet, soft, mellow flavour. The English rape is much. larger than the summer or Bird Rape seed with a darker colour and is sharp and bitter to the taste. Wild mustard seed, which has been cleaned out of flax seed is sometimes mixed with the rape to cheapen it. It has a hot taste in the month and it is needless to say is very injurious to the birds. Summer Rape seed is good to mix with the Canary seed and will keep the bird in excellent condition.

Hemp is a seed about which many bird owners are very ignorant. The best grade is known as Russian hemp, and it is a very rich, oily, sweet seed, and much loved by birds of nearly every species. When mixed with other seeds, the bird never fails to scatter all the rest around the cage searching after this dainty morsel, and as long as he has one seed will not touch canary, millet or rape. Thus it makes him very extravagant with his food, for it is nearly all wasted except the hemp. This, being the richest of all seed, is very fattening and heating to cage birds, and will certainly ruin the digestive organs and spoil the song of the bird. If used at all it should be

fed very sparingly indeed—we would not recommend it at all for a food-occasionally a bird seems delicate and is a very small eater, in such case give a few hemp grains, and only a few. Many people noticing how eagerly the birds devonr this seed, are led by the kindliest intention to risk the life of their pets by keeping them supplied with what is sure to injure them. It is no kindness to a child to let it eat what you know will ruin its health because its appetite may crave for it; so it is with the bird you have undertaken to care for: it is to be treated with as much consideration. To get a bird to feed from the hand, a grain of hemp can be given and it will gradually overcome its timidity and take food from the hand. Goldfinches will soon learn to come out of their cages for any favourite food offered them, and to fly on the hand or shoulder to receive hemp seed, of which they are very fond.

Porry Seed, often called Maw, is the smallest of all the seeds used for birds. It is grown in India, Java, and other parts of Asia, and is of a peculiar greyish blue colour and should have a clear, fresh appearance. This seed is by far the dearest of any of the bird seeds, costing in ordinary times about twenty-five cents per pound in the store and often more. All birds are great lovers of maw seed; and it must be fed

sparingly, for being a powe ful opiate, they will feed upon it mutil they drop from the perch, owing to its intoxicating effect. A pinch of maw should be given occasionally during moulting, and a little mixed with egg food, for which see later. Goldfinches are quite fond of it however, and a little should always be mixed with their seed.

FLAX SEED is grown in Canada, and should be good, clean seed, it is nonrishing and fattening, and a little can be mixed with the canary, millet, and rape during cold weather. Many floar and feed dealers who sell bird seed, mix flax seed with it (and very nuclean it is), but put in far too much—one pound to ten pounds of bird seed is quite sufficient in winter, and in summer it is better without any.

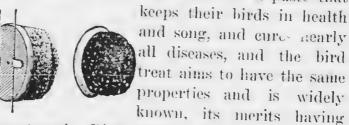
NIGER OR INGA SEED, often in Canada called Iona seed, grows in British India. It is a long dark seed something like thistle seed, not well-known to the ordinary public, but used by many of the leading breeders and fanciers of Great Britain, and kept by leading bird food dealers in Canada. If you have any difficulty in getting it, write to the largest importers of the seed in this country, Nicholson & Brock, Toronto. There is a great difference of opinion as to its value. Some bird fanciers would not be without it on any account, and they give a little to their birds,

especially goldfinehes and bullfinehes, all the year round—say mix an ounce of inga to one pound of ordinary food—others only give a little during the breeding and moulting seasons, and then there are others again who do not believe in it at all, and think the birds are better without it. It is a case of doctors differing. One of the largest and most successful exhibitors at bird shows in Canada gives a little to his finches all the year round, mixing it with their ordinary food. He thinks that for giving a good, bright, close, compact plumage it has no equal.

Canaries do not require so much as goldfinehes, etc., a little now and then being ample. Some breeders who give canaries a little, do not give them any at breeding time, as they think it has a tendency to make the hen birds egg-bound, whereas, as we have already stated, other breeders believe that it helps a bird considerably during that period.

Teasel or Teazel Seed is a well-known seed that grows wild in Great Britain and is given to finches, such as Goldfinehes, etc. Many old and experienced Bird Fanciers give a little to eanaries in the monlting season, and also to young birds, as they think it helps the growth of feathers. If you have any difficulty in getting it write to Nieholson & Brock, Toronto.

Burd Treat is something no canary should be without at any time, for it aids in monlting and incubation, sharpens and hardens the beak, stimulates the gizzard, brightens and improves the plumage, clarifies the vocal organs, gives perfect song, safeguards against disease, and keeps your bird in proper tone as nothing else can. Expert canary breeders use a paste that



been tested. Bird Treat is found in good bird seed packets, and it is also sold by itself by leading seedsmen, druggists and grocers (see advertisement); it is put up in cakes, each in a round tin holder that has clips at the back of it to fasten it to the wires of the cage. The holder is always a round tin (see sketch). If it is square or any other shape, it is not Bird Treat; so see that you are sure in getting the right article.

If the reader has never tried Bird Treat it is well worth doing so, and can do no harm and is bound to be enjoyed by the bird. The proprietors of Bird Treat have received many testimonials of its enring disorders of eage birds and cansing birds to sing that have been silent for a long time—in fact so potent and invigorating is Bird Treat that it will frequently carry the joyful warbler through the critical period of shedding feathers without the loss of song. It is especially valuable during the breeding season as the old birds will feed it to their young, and a wonderful increase in the growth of the nestlings will be at once noticed, and the great percentage of deaths which is such a drawback to breeders will be very much lessened.

Egg Food is a very nutritions and strengthening diet when properly made. The egg should be boiled quite hard and afterwards chopped very fine, add stale bread crumbs finely powdered, a little maw seed, and a sprinkling of cayenne pepper, all well mixed together. Do not be afraid of the cayenne pepper for the bird likes it. If you have not any maw seed, grate a little Bird Treat in its stead. Egg food is too stimulating as a regular diet, but it will prove about the best daily food to be had during monlting, and also for fledglings and weak birds. For ordinary purpose a little about twice a week will be ample in addition to their ordinary seed. Egg food should always be fresh. Yesterday's will not do for to-day.

CRACKED CORN AND CRACKED WHEAT.—This is fed principally to macaws, parrots, paroquets

(of the larger species) cockadillos, cockatoos, lories, etc. The corn being of a heating nature, should only be given in small quantities. In some parts, buckwheat is fed largely to parrots and red-birds.

Sunflower Seed is the principal food for parrots and cockatoos and is greatly liked by red-birds. It grows in Canada, but the best is the Russian variety. It is quite a pleasant tasting seed and rich and oily. It is stated that feeding this seed gives lustre to the feathers of the bird, and poultry men feed their fowls with it a few weeks before the shows.

Padda.—Unhulled or rough rice is the ordinary rice of commerce before the bulls are off. This seed is fed to most of the seed-eating birds of the rice-fields of the Southern States of North America, and also those that come from China, Java, or in fact from any part of the world that rice is grown. All of the family of grosbeaks are particularly fond of it as is also the Java sparrow and rice-bird.

LIVE INSECT FOOD—for insectivorous or soft-billed birds—especially meal-worms are in the hands of a beginner in bird-keeping, very much what a new very sharp knife is in the hands of a small schoolboy, and is almost sure to lead to some trifling accident.

Meal-worms are extremely fattening and stimulating. One or two do no harm, and if

given at proper season they are very good, but to give them liberally makes birds forsake their other food. In trying to raise a young brood of mocking birds, cardinals, etc., by feeding the parents too liberally, ill-snecess will often result, the reason being that meal-worms are so very tempting that the old birds find it impossible to resist swallowing a good many by mistake; neglect of the young brood follows, whilst the old birds are so much stimulated that they want to build a fresh nest and lay again before their proper time. To get a good supply you only have to tip the miller's boy, who will saerifiee half his dinner hour for your benefit—and his own-in hunting for them. If you would be independent, buy a pint from some miller or flour and feed dealer. Put them into a deep earthen pan or tin with a lot of bran, pea meal, crushed oats, mix in also a bit of old sacking and a piece of old newspaper, and a little cottonwool, etc. In a short time these meal-worms will change into beetles, lay their eggs and start a big family in a small way. Be sure that the supply of food is adequate to the support of the inhabitants. Keep in a moderately warm place for frost will destroy them, hence the need of the eotton wool.

Ants' Eggs are, as is well known, not the eggs, but the larvæ of the ant. They are largely collected in Germany and Russia, and dried

either in kilns or bakers' ovens. Properly dried, the ants' eggs remain good for a year or more. The dried ants' eggs should be soaked for a couple of hours in water and then strained previons to being used, when they may be fed either by themselves or else mixed with other food. A good anthority says, "fresh ants' eggs are much better to breed birds on; and I owe such success as fell to my lot in breeding insectivorons birds to the substitution of those for meal-worms. It is not difficult to find an ant-hill, and such an one I put bodily-earth, ants, larvæ and all-in a bag, giving the birds a handful or two every three or four hours. The old birds will find plenty to do in collecting the ants, and scratching or picking the larvæ out of the earth,"

Spiders.—A few given to insectivorous or omnivorous birds are very healthful, and will sometimes restore a sick bird to health and strength again.

Gentles or Meat Maggots are sometimes very untritions and stimulating, but in some cases they do not agree with the birds, but he who will try to breed and keep soft food birds must arm himself with inexhaustible patience, and make up his mind to persevere in spite of repeated failure.

Mocking Bird Food and foods for insectivorons or soft food birds, see the chapter on the Mocking Bird.

GRAVEL is very essential to the health and well-being of birds. The bottom of the cage should be kept covered with gravel for it tends to keep the birds' feet in good condition, and is eonducive to health and elevatiness, besides being essential to enable the bird to digest its food properly, for having no teeth, that necessary work is performed by the gizzard, where the food is ground and reduced to a nutritions condition. The gravel should be sharp, screened and purified by oxygen in order to be the most beneficial. That which is taken from the sea shore is the best, as it is the purest, and possesses all the requisite qualities. Birds thus provided for seldom lay soft-shelled eggs. sand is unsuitable, it not being sharp enough and frequently not clean. Gravel obtained from the streets, pits, etc., cannot be safely used, as it usually contains clay, soil, etc., and is liable to be noxious, from various gases and impurities, in their effects.

CUTTLE FISH BONE is a white chalky substance, the backbone of a fish found in the Mediterranean Sea, the bone which is pure earbonate of lime, is imported from Italy, France and Austria. The pieces are of elongated, elliptical

shape, from four to ten inches in length, and it is used for the comfort of the happy little captive, being fastened in his eage so that he can shapen his beak upon it, and also eat a little of it occasionally. Almost all birds delight in pecking at it for it helps digestion greatly. The tone being somewhat salty the bird likes it, and it has a



Although such a simple thing, yet it appears to be difficult to fasten. Some tie it with cotton or string, and some put it between the wires of the cage, only to fall down. The only way is to buy it with a fastener let into the bone and that clips the wires of the cage as shown. The beauty of it is, that the bird can

reach the entire surface of the bone, which is held in position until every vestige of eatable matter is gone.

Cuttle bone is most valuable to the hens at breeding time as it forms the shell of the eggs and the bones of the young birds.



BREEDING.

Thou'll break my heart, thou bonnie bird
That sings beside thy mate,
For sac I sat, and sac I sang,
And wist na o' my fate.

—Burns.

Breeding canaries is a very interesting and fascinating pursuit. It affords great pleasure to the children to rear a nest of beautiful birds, and they are always interested in watching the nest building, seeing the patience of the mother bird, noticing the hatching and daily growth of the young birds, and their development in song. In addition it can be made very profitable. We have often known working men make over a hundred dollars a year after all expenses are paid and have heard of people being able to show five or six hundred dollars a year for their trouble and labour. Of course a great deal depends on how many pairs are breeding, allowing ten young ones to a pair is an under estimate and of these about half will be singers and the other half hens. And the singers are worth about four times as much as the hen. A great deal necessarily depends on the time, attention and skill given to the birds in addition to the owner's ordinary occupation,

Birds mate in cages any time from January until June, and birds once mated will breed until

the moulting season. Many people consider that the 14th February is a good time to begin, but many breeders start earlier, and others again, think that St. Valentine's Day is too soon. When the winter is long and the spring is late, young birds do not do so well, and the time must be left to the breeder's judgment. It is a great mistake, however, to mate birds too early, and often results in failure and the death of many valuable birds, especially the hens. It must not be forgotten that even if the days are a little milder than usual, the nights are cold and long. This is detrimental to the hen, and greatly against being successful in rearing the brood. According to some people it is best not to begin breeding until March is in.

To breed and rear canaries is very easy if you have good, strong stock, and are willing to put them together and not inquisitively disturb them. The birds you wish to mate should not be related to each other and should be placed near each other, the female in the breeding cage and the male in his own cage, and permitted to thus become acquainted before occupying the same cage. Some extra nourishing food, either hard-boiled egg, both yolk and white grated together, mixed with a little may seed or Bird Treat should be given about a week before the birds are put together. A little sweet apple or

lettnee, or celery should be given every other day. These foods, with their ordinary seed and an abrindance of gravel will get the pair into condition. Some breeders provide a little old plastering from an old building or crished oyster shells for them. Birds thus provided seldom lay soft shelled eggs.

Breeding Cage.—A good authority, Mr. John Robson, a well-known writer in "The Feathered World" says:—

DESCRIPTION OF BREEDING CAGE.—It is made of six or seven cut pine boards. A box eage with wire front-Length, 20 in.; height, 15 in.; depth from front to back, 10 in.; the bottom front bar 23/4 in. deep, middle cross bar from bottom of cage 6 in., thus allowing good head room of 9 in., which is beneficial to the birds' health, as well as a good access of light into the eage for the birds to feed. The front is wired with timed wire of 16 or 17 gange, or there are plenty of capital wire fronts which can be bought ready made. It is advisable to have a door in the front and one in the end, the end door being handy to run the birds out at any time instead of catching them, also for putting the nest in or out without disturbing the old birds much. You can have a drawboard; but I do not use one myself, as I always have the bottoms of the cages covered with pine sawdnst. This does not make

a harbour for insects, and is easily cleaned out with the scraper. Some cages are made with a drawer for the seed at the right-hand corner, with the drinking vessel at the left, or a small seed hopper can be hung on the front. Colour, sky-blue enamel inside, and black outside; or, if preferred, mahogany outside.

Nursery Cages.—After the young birds leave the nest, if the parents attempt to pluck them place them in a small nursery eage, hung in front of the open door of the breeding eage. The old birds then finish feeding the young through the The size of the marsery eage is 834 in. long, 9 in. high, and $6\frac{1}{2}$ in. wide, wood bottom, top, nprights, and eross bars. The bottom wooden bar round the eage should be 2 in, high, as, by having it this height, the tails of the young birds cannot slip through the wires and possibly get plucked. The end of the cage, which hange on the front of the breeding eage, is also all wood, except a space of about 2 in, above the bottom cross bar, which is wired for the birds to be fed through: the object of this wooden end is to allow no space for the young birds to elimb up or cling to the wires—as they do with a wire end-and this again prevents plucking. perch only in the middle of the eage is required.

A good anthority says: "The male should not be over four years old, and the better age is one



SINGLE BREEDING CAGE with nursery cage in position

or two years. The female may be one to four. Some breeders think if the female is older than the male there will be a larger proportion of males among the young birds. A yellow male and a light colour female produce usually handsome yellow birds; if one wishes clear deep yellow birds, let deep yellow unmarked birds be mated. A gold colour pair will produce the same colour. A golden male and deep green female often produce einnamon colours. Solid green pairs usually produce solid green, but in some cases, unless the same colours have been bred for several generations, the young birds may show colours unlike the parents, but like the grand-parents or great grand-parents. breeding, size and colour may often be had, but the best song is seldom or never found with the larger birds or fancy colours. Birds of high colonr or great size usually have strong, heavy voices and are not good songsters. If the breeder wants size, the Lancashires are the best. are both plainheads and crests.

To breed good singers, see that both male and female are good strong birds, and let the young ones hear only the male bird sing or some other equally good Roller and you will have reason to be proud of some choice songsters.

Deer's hair or tow is furnished to the pair so that they may arrange the interior of the nest to suit their tastes. The nests may be obtained from bird stores and are generally round wooden boxes, or baskets, or made of eap shaped wire and lined with cotton-wool or flannel.

It is most advisable to give the hen a clean freshly lined nest pan after each brood is raised and before she goes to nest again. Though the old ones may show no signs of insect life, they may nevertheless be there; and even if there are none, a clean fresh lined nest is certainly much sweeter and more healthy for the hen, as well as for the health of the young brood.

The nest is best placed in the middle of the cage, between the two perches, facing the front door of the cage, as by placing it in this position it is handy to get at. If it is placed at the end, it should be hung on the back about three inches from the corner, so as to let the old birds have free access round the nest for feeding. It also allows the droppings from the young to leave the nest freely and not clog the corner of the cage, making a harbour for insects. Just a little above the perches is a very good height for the nest to hang.

The daily food should be good clean seed, canary, millet, and rape well mixed. The breeder cannot get a better mixture than Broek's Bird Seed, which is put up with great care, and each packet contains a cake of Bird Treat, and

for one pair of birds one-third of both parts of a hard-boiled egg finely chopped, with which mix about the same quantity of powdered eracker, and sprinkle a little eavenne pepper. Mix with the egg food every other day a very little maw or poppy seed, or as often as is needed to keep the bowels open. Give a little apple or a little green food every other day. Keep plenty of fresh water and a cuttle bone in the cage.

Cleanliness is especially necessary during the breeding season, but try to disturb the birds as little as possible—always move slowly around the birds. Liee are particularly annoying at this time, and they breed very rapidly in the nest; it is therefore well to dust the nest and eage frequently with insect powder.

After the birds have been eared for, and had their bath twice a week if they wish, unless some ailment requires attention, leave them to their own pleasures. Too close attention and frequent taking down the cage to show the pair to visitors, have separated many mates, and rained the prospects that gave promise of a large and beautiful family. Quarrels sometimes occur when the pair are first put together, and if hard and continued, the male should be put back in his own cage again for a day or two and then they may try again. Usually the disagreement is brief, but some females take a settled

aversion to a particular male and will never pair with him. In such a case change the female.

Some pairs are very backward, and seem to waste two or three weeks' time building the nest in the morning only to tear it in pieces in the afternoon, with an occasional attempt on the part of the female to sit some of the time, the pair has not really mated, one or the other not being in condition. Give more fresh egg food in the early afternoon, for where there are no quarrels, there will, in almost every case, be perfect mating, and later eggs. The first egg, a small sea-green colour, is laid on the eighth day after mating, and one egg is laid each day until the laying of from four to seven eggs is complete.

TESTING EGGS.—After the hen has been sitting three or four days, if you have a steady hand take the nest out of the cage and carefully lift the eggs up one by one between your finger and thumb (taking great care not to press them at all, or you will find yourself minus the egg) and hold them up to the light. If fertile, you will be able to discern the dark fœtus up the side, that is, if your hen has been sitting fairly close; if not, you had better not disturb her until the seventh day. If the eggs, when held up to the light, are perfectly clear, then they will be of no use, as no conception has taken place, but if fertile they will be opaque.

The Egg.—There cannot be successful breeding unless there are sound fertilised eggs. An egg is practically composed of four distinct substances, viz., the shell, the glair or white, the yolk, and the germ. To enable a bird to lay good eggs it must be supplied with the necessary materials, as it cannot, like a wild bird, go and forage for itself. The shell is composed of earbonate of lime, 9-10th parts; phosphate of lime, î-20th part; and animai glut€n, 1-20th part. The carbonate and phosphate of lime give the shell its hardness, and the gluten causes the two lime substances to adhere altogether. Soft eggs are caused by the absence of the salts of lime. This is best supplied to the birds by giving them large pieces of cuttlebone, and it is really surprising the quantity of it they will cat. glair or white is pure albumen which is a very delicate composition of several chemical substances. It is insoluble in water, and when left in contact with the atmosphere it very rapidly decomposes, and causes other matter with which it comes in contact also to decompose. albumen is the substance in which the yolk floats, to prevent it being broken. The volk is absorbed by the chick shortly before it leaves the shell, and is its only sustenance the first few hours of its existence. The shell is porous and admits the air; if this were not the ease the chick could not breathe.

Egg-Bound.--Females fed with apple and the may seed are rarely egg-bound, but sometimes it will happen that the day before a female lays, she will be seen in the morning in the most complete health, her feathers close and compact, wings tucked up, nothing to indicate the presence of any disarrangement, but in the afternoon there is evidently something wrong, for she seeks a corner of the cage panting violently, and squats on the ground with wings outstretched, feathers ruffled, head thrown back, eyes closed and apparently prostrated, the picture of misery. Next morning if she should not have laid her egg, action must be taken. Put some hot water in a narrow-necked jug or bottle and expose her vent freely to the steam, and afterward put two or three drops of sweet oil on the vent. Gently replace her in the nest and the egg will soon be laid, if it be not dropped when the oil is applied. Early attention to a case, when the bird is eggbound, is of the utmost importance. If the egg is broken inside the bird, according to most anthorities, it kills the bird, although we have heard of cases where it has not done so.

Mr. John Robson says: "When you have a hen about to lay and showing signs of being much affected thereby, by the tail working a great deal, and sitting a bit Impy at times, give her a little maw seed just before she settles down

to rest for the night; say, about half a teaspoonful, or barely this quantity. This will soothe her, on the following morning you will generally find her much better, if not quite well, and an egg in the nest as well. If this is not the ease, and the hen shows no sign of improvement, then it begins to look like a case of egg-binding, when the following remedy must be resorted to:-Soak a little piece of bread in scalded milk, and before giving it to the bird dip it in moist sugar, getting it well eovered with the sugar. generally has the desired effect unless it is a very bad case, when the steaming remedy would have to be used, which is done by steaming the bird for say ten minutes of a quarter of an hour; but I do not recommend steaming unless you are compelled to do it as a last resource to save the If it has to be done put the boiling water in a jug with as narrow a top as possible; the object in having the top of the jug narrow is to retain as much of the steam as possible without it escaping in waste. Fill the jug up with the boiling water to within two inches of the top, then place a piece of thin muslin over the top of slightly, but not to touch the water. Then take the hen in your hand gently, turn her vent up, and drop one drop of olive oil on to the vent so that it runs into it; this aids the expansion of the vent. Then reverse the hen, and hold the vent over the top of the jng, letting her tail rest

over the one side of the jug so that the vent is fully exposed to the steam for the time mentioned.

The object of having the muslin over the water is in case the egg should pass from the hen while you are steaming her; the muslin prevents the egg from getting in contact with the water, so that you have the egg quite safe as well as your bird.

At all times your bird's life must be studied before the egg. If the bird is not freed of the egg in three or four hours after steaming, repeat the operation."

Sometimes it is possible to assist by working the egg down so as to get it from the bird. The way to perform this operation is to place your finger and thumb on either side of the bird's abdomen, where the egg lies, being sure that you have got your finger and thumb behind the egg, and that it is bound to come in the direction of the vent; put a little pressure on, very little, and gently work the egg down. After steaming, it will often come in this way with the little extra pressure given by the finger and thumb.

The pressure of the gg on the vent causes the vent to expand, and so the egg passes. But it is not safe for a novice to do unless he is certain he can control his pressure sufficiently so as not in any way injure the bird, and it should only

be done in very severe cases when it is a matter of life and death, and where there seems to be no other hope, all other remedies having failed.

IMAGINARY EGG BINDING.—Another point which I find novices somewhat in a dilemma about is imagining a hen to be egg-bound when really her eggs are only in process of formation.

A hen egg-bound can always be detected by the signs I have spoken of previously, and the apparent agony and pain she is suffering, and in very bad cases they show signs of losing the use of the legs. The hens I now refer to show no signs of pain, but they commence to sit upon the nest all night two or three nights before laying, which many hens do, and in the morning when there is no egg, in goes the hand inmediately into the cage, out comes the hen, she is blown up at the vent-or, rather, the feathers are—and she shows very full and somewhat swollen. This is only natural from the condition she is in, being full of eggs. "Ah!" says the novice to himself at once, "just what I thought. She is egg-bound. I must physic her, or do something to get that egg away." So he commences without more ado interfering at a time when it is not required, all because the bird has not laid an egg that morning which was not due or ready to come away. I know this is done frequently, hence my reason for

dealing with it here, so that others may not fall into the same error. Do not on any account tamper with your hens at all, even though they do sit on the nest a few nights without laying, so long as they show no signs of being ill. Leave them to Nature and a regulation of your diet, as may be required. A piece of boiled earrot the size of a filbert, given two or three times a week whilst the eggs are under way, and until the hen has laid, will be found very beneficial.

Taking Eggs Away.—The first two should be taken away with a teaspoon the morning they are laid, and put in a box in which is a little bran. This will prevent their getting broken. Never take the eggs ont with the fingers, or the chances are ten to one some of them will get broken. The morning the third one is laid return the two, also with a spoon, and the hen will then begin to sit. By taking the eggs away the young are all hatched pretty much about the same time, and get much better fed than if hatched out at intervals of a day apart, in which case the first bird gets all the food and the younger ones hardly any. In thirteen days from the day you set the hen, the eggs will hatch if they are fertile, and the hen has sat well. At 7 o'clock p.m. on the twelfth night, put in an egg glass some freshly-made egg food for the birds to feed with if the young are hatched

early, which is very often the case. Always leave the blinds of the room up, so that the birds may have the early morning light.

Eating the eggs as soon as laid is usually done because the pair has not been fed richly enough. Mated birds require rich food, egg paste and Bird Treat, and these should be given daily for a week or two before the pair is put together, and continued until you are through breeding and the youngest birds eat the seeds.

The male bird should remain with the sitting female if he behaves well; but if he shows a disposition to disturb too much, or drive the female from the nest he may be put in his own apartment. Usually he sits on the eggs when she gets off or else feeds her.

Working One Male with Two Hens.—If you want to run a male with two hens you must take him away at certain periods. For instance, No. 1 hen has laid her complement of eggs and commenced to sit; you must now put the male with No. 2 hen, and by the time No. 2 hen has laid and is sitting No. 1's young ones will probably be hatched and a few days old; and when they are about a week old you may run the male back to help to feed them and finish them off. And so in like manner with No. 2 young when he has done with No. 1 lot and she is sitting again. But here you will have to watch that he does

not molest the young. Use your own judgment, from observations made, as to whether he is going to be agreeable to this kind of working or not, as some will work this way all right, while others will not, and if they will not agree to this mode of procedure, and you do not keep a sharp eye on them, they will do you a tremendous amount of harm with your young brood in a few minutes. In such cases where they will not work agreeably on these lines, and you want to run the male with two hens, you must let him put No. 1 to nest with her complement of eggs, and then transfer him to No. 2 until she is sitting also, and then remove him into a separate eage by himself. There let him remain, giving him occasionally a little egg food to keep him in full vigour until the heus have got their young safe into the nursery cage and are wanting to go to nest agaiu, when he may be again introduced to the hen which is ready for him first, as he will not be able to injure the young, for the wires of the unrsery cage will prevent his doing At the same time the hen will finish them off by feeding them through the wires while she is laying her second complement of eggs before she commences to sit again, and in like manner he can then be removed to No. 2 hen after No. 1 has commenced to sit again, and so on right through the season.

The old birds begin to feed the young with the first ray of smalight. Of course you have given egg food while the hen was laying. When the young are hatched it is necessary to give it fresh three times a day—morning, noon, and night, and as much green food as the birds will eat, fresh twice a day. The sand-tray should be taken out and cleaned twice a week when the hen is sitting and when the young are hatched; this, if done quietly, will not disturb the hen in the least.

The light should be shaded from the hen when sitting, and until the young are ten days old, by putting a piece of paper or calico on two sides of the cage, that is if a wire-one is used such as described on page 53. If a box eage is used, only in some cases is it necessary to form a screen by a piece of brown paper at the nest end of the cage, but it must not be made dark. When the young are fourteen days old put a fresh nest; but do not touch it after that, as it is advisable to keep the young in the nest till the latest possible moment. They will be fit to leave the parents when they are thirty days old.

The Nestlings are fed by the old birds with the egg paste which should be given fresh two or three times a day. In some cases, where the old birds are very good parents and feed the young ones as they should, a second nest is put

in the same cage with the young birds, and the second laying goes on while the father bird feeds the young until they can eat for themselves. But if the male gets quarrelsome or the pair, in getting too anxious to mate again, neglect their young, it is well to separate them, putting the male in his own cage until the young birds can eat for themselves and fly on the perch. They may then be removed and the male returned to his mate, and another brood raised. If all goes well the young birds will grow under the eye almost hourly, but it may be that the mother will refuse to feed them at all, or at such long intervale and in such a half-hearted way, that the experienced breeder can tell at the end of a day or two what are the future prospects of the nest. If, in place of full crops, plump breasts and heavy abdomen, he finds every feature dwarfed, it is then time for the breeder to step in and assist by artificial feeding. The best rule is, in dealing with breeding hens, to leave well alone, even if that well is just to keep the young birds moving. But for them to stand still is equal to retrograding, and then the mo te of proceeding is this: Cut a hard boiled egg in halves, and having moistened the yolk with saliva, visit every nest, particularly the donbtful ones, and when empty crops are found, serape up some egg with little flat stick, making it very moist, not much thicker than eream in

fact, and give the young birds a good feed. There is no difficulty in making young canaries open their mouths; it is almost the first thing they do in this world, and they never seem to forget the way. Fresh food will often induce a mother to feed the young when she might otherwise neglect them. Supposing everything has gone along pleasantly and the birds are, say four or five days old, and as fat as moles, en looking at them one morning we find the down all gone or tangled and matted with moisture. This is an indication that the hen has begun to "sweat" them, which she does by sitting on them very closely, seldom leaving the nest. The best thing to do is to remove the male bird, putting him in an adjoining compartment where he can feed the female through the wires; he will incessantly call her to come and feed, and in accepting these invitations, she will get right again.

Keep the young birds confined to the nest until they are three weeks' old, if possible, by which time they can use the perch. If then the hen bird is inclined to pull the feathers, the young may be put in a cage with the father bird, and he will feed them as long as it is necessary. The young can crack and cat soaked rape when they are six weeks' old. Be sure the rape seed is fresh and good, for it soon goes sour

when soaked. A very little only should be soaked at a time. It is a great advantage to supply birds in the intermediate stage with ground seed. Canary seed is of course the staff of life, but a variety of other seeds ean be used with benefit. The coffee mill will come into use; it ean be set to grind fine or merely erush, doing in fact little else than crack the husk, a feat the young bird eannot as yet accomplish for itself or only with some difficulty. A mixture of eanary, a little millet, linseed, and even a pineli of hemp seed can all be passed through the mill and put inside the eage. One lesson at a time is sufficient, and until they learn to eat their seed they should not have to go far to find it. A week of this kind of treatment will go a long way towards maturing the birds; and if a little whole seed be added, and it is seen that they ean hull it-without trouble it is time to think of transferring them to a large flight eage, where they will have room to exercise their wings. The larger and roomier it is the better for the birds, for it is here they do their growing, and for the first eight weeks of their lives they ought to have nothing else to think about. Overcrowding must be avoided and ample perch accommodation provided. It is the want of this that leads to quarrelling, for birds have their own particular corners and places to sit and roost in. Keep the flight enge, whether large or small,

sempulously clean. Arrange the perches so that the birds cannot soil each other when roosting—give plenty of good sound seed, whole and crushed; plenty of seedy green food, clean, sharp sea sand, and clean drinking water, with the addition of a bath every morning. Do not give nuch soft food, and what you do give, seatter, rather than allow it to stand and become sour, and everything will be done to promote a hardy constitution and a good growth.

If you wish the birds to sing well they must be taught by a good singer. The father bird cannot devote himself to raising a second brood and give the first brood the best instruction. The instructor may be a choice canary, a Virginia Nightingale, or an European Nightingale, the Virginia Nightingale being less desirable than either of the others.

Do not worry the birds' lives out of them going every honr of the day to see if they are all right, or have the nest out a dozen times a day to see if the old ones have been feeding—such is quite nunecessary, and liable to make the best of birds go wrong and cease feeding. A look at them morning and evening is sufficient, if this is convenient to you, and you eateh the hen off. Never drive the hen off the nest nuless you have a grave suspicion that something is wrong. Some birds will stand it, but a great number will not.

If the nest is hanging in a position that you can see into it there is no need for you to disturb the cage or the nest. Simply blow on the young and they will at once rise up to be feel. When the right side of the neek is filled or puffed out with a cheesy-looking substance everything is well as far as feeding goes. down on their bodies will be all standing up, and the skin of a nice red, healthy appearance, if the youngsters are going on well; but the down standing up cannot always be taken as a safegnard, as we have seen some of the most miserable and wasted young with their down standing up, but one thing they lack which a good, healthy, well-fed specimen does not, and that is, the nice yellow fat loins and rump of a wellfed, healthy bird.

Another point in which fanciers must be guided entirely by eircumstances is that of hens careless in feeding their young whilst a male bird is in with them; in fact, apparently not caring whether they feed them or not. It is strange that it should be so, but it is. Some hens are the best of mothers, if left by themselves, and will bring up every brood they have without a hitch, but with a male in with them will let every young one they have go down. I once had an excellent feeder, and on which I could always rely for any emergency, so good was she in feeding properties. During her fourth season,

as she was getting aged, I thought I would leave the male bird with her to assist in feeding, so that the strain might not be so great on her, but when the young were hatched she would neither leave the nest for food herself, nor yet searcely rise to give the young any. This went on for a day or two; the young I noticed were making no progress, so I removed the male and let her go on by herself. The male bird, though very attentive and kind, was evidently not a welcome gnest, even in her old age while bringing up her yoning, for he had not been removed an hour before she was off and on the nest in her usual style, feeding the young as hard as she could, and in the course of a day they began to improve wonderfully; so that you see, if I had not removed the male, I should either have had to remove the young ones to a foster-parent or have lost them. On the other hand, there are hens that are excellent mothers so long as they have a good male bird to help them, but which are not so by themselves; so that the avienturist must be entirely guided by circumstances. Again, there are some hens that will neither feed with a male bird nor yet without one, and will never make good mothers, but are like some people, naturally lazy, and seeking only luxuries for themselves, while their bairns can starve. Such hens, unless good bred birds, are not worth keeping; but if they are well bred birds, then it

is advisable to keep them and remove their eggs to foster-parents, of which it will pay you to keep a few to rear the young.

Foster Parents, by which is meant hens, or pairs of common birds, which you have personally proved, or know to be good feeders. These are invaluable for rearing the better or high-class birds in cases where the parents will not feed, or where you do not wish to exhaust their strength by so doing. Of course you must allow those foster-parents to go to nest in the usual way, and when they commence to sit remove their eggs, putting those you wish them to rear under them, giving the common or foster-parent's eggs to the good hen to sit the usual time, that she may not come on to lay again so quickly.

REMOVING DEAD YOUNG.—Keep a look out for any erushed dead ones; if you do not find the hens off you can soon detect this (if the young ones are about a week old they will soon smell) if you put your nose as close as you can to where the nest is. In this ease you must bring the hen off for the sake of the safety of the others, and remove the dead one. Some mothers throw out the dead into the bottom of the eage. But if you bring the hen off do it gently. Your finger raised against the side of the nest is usually sufficient to make her hop off, or a spray of fresh watereress will often coax a hen off. You ean then do what you wish with the nest.

Plucking.—When the young ones are fourteen days old, should the parents show any sign of placking them, the young should be removed at once into a nursery cage as recommended on pages 53, 54 and 77, and let the parents feed them through the wires of the eage, so as to prevent this calamity, which tells greatly against a young bird and also largely cheeks its growth. If it is a show speeimen which requires colourfeeding, and the plueking has been done by some other young birds in with them when those placked are six or seven weeks old, the plucked feathers will have to be drawn again by the owner when the birds moult, or they will be two shades of colour, for the young birds will not cast or shed the plucked feathers which have come a second time, as at that age many young birds have commenced their first monlt in a slow way. Two of the feathers will have to be removed daily until you have completed the task. again, if a young bird gets very badly plucked when quite young and with the parents, there are the chances of it getting a chill, the result being in many cases death.

Age to Remove the Young.—Some young fanciers, I find, seem to be at a loss as to the proper time for removing young birds from the parents. Most young birds ean feed themselves when four weeks old, many commencing to feed themselves a little a few days before, and some

cannot feed themselves sufficiently until they are a few days over the four weeks. You must watch that they do not call for the parents, for if you find a young bird running about the eage with its feathers all ruffied up, almost on end, and whining, after you have removed it from the parents, you may rest assured that that young hird is not taking sufficent food to nourish it, and is best returned to the parents for a day or so, or to the male bird if he has been finishing them off. In the case of a pair of birds being together and the hen sitting, the young bird or birds must be returned to them in a nursery cage hung in front of the breeding cage, and the nale will give them food through the wires. If they were allowed to go back into the breeding eage while the hen is sitting they would plague her, and possibly spoil or break the eggs by jumping on to the top of her while sitting on the nest. Do not, however, confuse this lack of feeding in young birds with their ruffling their feathers and sleeping in daytime, as all young birds sleep at intervals during the day for the first week or so after they leave the parents, and some longer than this, after they have partaken of a good feed; but they do not eall as I have described if they are feeding themselves all right. When it is found necessary to return the young ones to their parents, half a day in some instances will be found sufficient, in others

a day, or in exceptional cases possibly two or three days.

Removing the Old Nest.—There is another point of importance I must touch upon while on this subject of feeding, and that is, where a hen is bringing up a brood herself, when the young have left the nest two days remove it (the nest) until the hen shows signs of wanting to go to nest again. By so doing you will often prevent a certain amount of plucking, as it has a tendency to keep the hen back a few days longer from coming on to nest and laying again than she would if the nest be left the whole of the time that the young are with her, and this is always advisable. My reason for saying do not take the nest away until after the second day from the young leaving it is, that they generally go back to it the first night or two to roost. On the other hand, a number never return to it again from the moment they leave it. Removing the nest will not check some hens in going to uest again quickly, as they will show signs of wanting to nest before the young have left it, and in fact will try to hustle them out of the old one before they are ready.

DIET FOR YOUNG BIRDS WHEN LEAVING PARENTS.—Young birds first commencing to feed themselves should have the egg food for the first week of the same strength as you have been giving the old birds to feed with, after which

time the egg should be gradually reduced and more bisenit added until you have worked them entirely on to biscuit or breadcrumbs, whichever you have been mixing with the egg. When this is given alone it should be made crumbly moist with a little warm water. Then you should by degrees reduce the supply of crushed biscuit or breadcrumbs, as the ease may be, until yor have gradually weaned them altogether on to seed, except a little soft food once a day. Crushed or scalded seed should be given. I prefer the former from the time they leave the parents until they can crack it themselves, which they can generally do at about six weeks old. Some people crush the hemp, rape, and canary seed altogether, but I only crush the hemp and mix it with the canary and a little of the German rape (unernshed), as I find it gets them on to cracking the canary and rape sooner, and as soon as I see them freely cracking the canary I gradually wean them off the hemp on to the canary and rape, only giving a little of the hemp three times a week for a week or two with the canary, letting the latter be their staple food, and on which they thrive apace. The hemp seed should not be ernshed to powder, but the shells just cracked, so that the young birds can nibble out the kernel. This aids in teaching them to shell the hard seed, or, in other words, aids Nature in performing her duties. By the time they are

eight weeks old stop the hemp altogether. With high-class stock, even after the birds are weaned on to hard seed, a little egg food twice a week will do no harm until they are put on their moulting diet. If all young birds, when they first leave their parents and commence feeding themselves, are given a little bread soaked in scalded milk occasionally instead of the egg food, it will ward off many troubles. A few split groats occasionally will be found most beneficial.

In addition to the above, all young birds should have a little soaked sweet summer rape seed daily as well as the little dry rape from the time they leave the parents until they get nicely away with the moult. The seed should be soaked in cold water for three or four days, changing the water daily, twice a day in very hot weather. A good heaped teaspoonful of this soaked seed should be allowed between four young birds daily. Before giving this soaked seed to the birds it should be well washed by allowing the water from a tap to run over it in a fine sieve and drained off as dry as possible, finally mopping dry with a cloth before giving to the birds. A supply of this soaked rape can easily be maintained by having some soaking in two basins, using from the one while that in the other is soaking.

Young birds moult only their body feathers the first year, the moulting beginning when they get into full feather at the age of six or eigh weeks. The larger feathers, the wing and tail feathers, are not shed until the second season when the bird is about a year old.

in adult birds, moulting begins about the month of July. but the time varies greatly according to eircumstances, the whole period extending over the next three months. The breeder notes the presence of a few feathers in the bottom of his eages as sure indications of the beginning of the end of his breeding season.

We are referring now entirely to adult birds, and may say here that the first sign of incipient moult, the shedding of one or two quill feathers, is to be regarded as the signal to discontinue breeding with such birds as show it; and even if it is found that the hen is sitting on full eggs at the time the moult begins it is best to remove them at once and not allow her to exhaust herself in endeavouring to discharge two duties at once.

DISTINGUISHING SEXES.—One writer says, "Young males swell out their throats in attempts to warble when about eight weeks" old, and with increasing age try to sing more. By this action the sex may be determined." The male bird is, as a rule, larger and

more massive than the hen, bolder and more energetic in his movements, and in the flight bustles about in a commanding sort of way, as if anxious to impress the looker-on with the idea that he is the superior animal. Put him in a cage alone for a minute, and his carriage is bold and defiant, his chirp clear and ringing, his action quick and decisive, and full of fire. The hen is, on the contrary, smaller and more delieately built, is shorter and more chubby, has a neater head and a softer and quieter eye, is less demonstrative in her movements, and when put in a cage alone, hops backwards and forwards in a quiet way, with a soft, plaintiff chirp. head of the male is longer and looks narrower, and experienced breeders can tell the sex of birds in the nest at a glance. This probably seems, to the uninitiated, distinctions without a difference, but such distinctions are subtle, and such as only experience and accurate observation can determine, and in mastering them lies the difference between judge and no judge.

One well-known authority whom we have often quoted Mr. Jno. Robson speaking of Canaries in December says:

Now that most (anciers are beginning to think about what they are going to do and breed next year, many have even selected what stock of their own they intend to keep, and it will be to their advantage to keep an eye on their selected

stock, to see that they have made no mistake, such as setting a young male aside, thinking it to be a hen, or vice versa, as this is not an unfrequent occurrence; in fact, I have known some of the old hands to do it, so if they do it we cannot say anything to the young ones for making such a mistake. But I thought it well to call attention to the fact, so that any error might be rectified in good time. The sex may easily be distinguished at this time of the year, if the bird is in a fairly good condition, by catching any doubtful specimen and blowing up the feathers on the vent. In the case of a male bird the vent protrndes in an inward curved direction, while that of a hen is perfectly flat, or, if at all prominent, it lies in a direct line with the tail, and is also more expansive. The head and eyes of a male bird have also a much bolder appearance; the colour is richer under the undermandible, and the voice more shrill than that of a hen. A male bird is also better filled in with the short feathers at the base of the tail, and altogether has a much more jainty appearance.

There is no way of determining the age of a canary, but after the first year the scales on the legs become coarser.

Young Making No Progress.—Parents are sometimes called bad feeders in error. The young go wrong, begin to droop, and die, and the hen gets the credit of it at once, when she is

quite innocent, and perhaps one of the most attentive mothers you could wish to have, but with all her attention the brood makes no progress; with all the food she gives them they make no flesh, even from the first, but gradually waste and pine away until you find them dead at perhaps the age of a week. Then there are young which will thrive and grow, and make flesh rapidly for a week or ten days, and then suddenly take a change for the worse, and go off in perhaps one or two days. Then, again, we have another class of young which never seem to gain much flesh, yet they grow, but in a very miserable way, and go on like this, never satisfied with all the food the parents give them, and just about two or three days before they should be leaving the nest they give up the ghost and go out of their misery.

The best thing I have found for delicate and wasting young is a few drops of eod-liver oil and tineture of iron mixed with the egg food, say six to ten drops to a good teaspoonful of egg food. I have proved this to be very beneficial even when given through the old birds, that is, when the old ones are feeding the young before they have left them.

TREATMENT OF HEN WITH INSECTS WHILE SITTING.—Sometimes during the breeding season the red mite becomes a trouble in the nest. To check this give your nests a good dusting inside

with pyrethrum powder when you set the hen, and again when she has sat half her time, but do not dust the hen with the powder, as this eauses an irritation of the skin, but give her a bath with some quassia in the water. This will rid her of any insects much better than dusting, as birds that bathe do not dust themselves unless they cannot get water to bathe in. Of course there are birds at liberty in the open air that dust themselves in the roads and on the sand beds, but these birds, as a rule, are not bathers.

CARE IN KEEPING GREEN FOOD.—Green food kept in water in warm weather is also much more troublesome to keep, as it turns rank very quickly with the heat, and you cannot be too careful not to give your birds any, even in a slightly-turned condition, or acute inflammation will be sure to speedily follow, which is easier brought on than stopped, so that the old saying is ever true, "Prevention is better than cure."

Causes of Failure.—Nothing mars or depresses the heart and spirits of a fancier so much as when he has got together a nice little stock in the best of fettle, with room and everything in good order, to have it blighted with failure. It makes the old hands feel down, so its pangs must be keenly felt by the young beginner. I am very sorry to know that young fanciers are often misguided and made the tools of a certain body of people attributing those failures to the

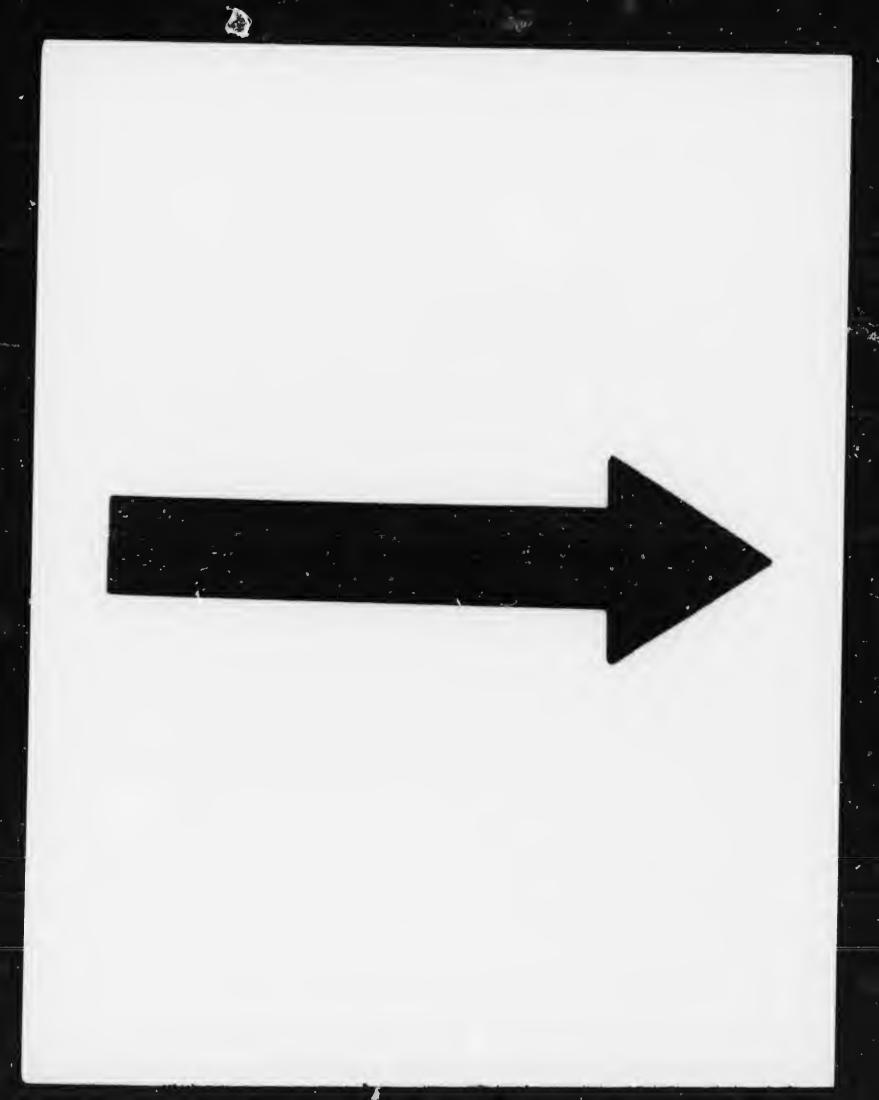
use of wrong foods, when the course of feeding they have been pursuing is perfectly correct, and the trouble has all been occasioned by the inclemency of the weather causing an extra strain on the birds' system, upsetting for a time their power to perform their natural duty. This wrong advice makes them try a change in their mode of feeding, etc., often with the most disastrous results, cansing a further reaction on the birds' system, and in many cases a large portion of the stock of adult birds is lost. Had they but continued in their usual way, their next round of eggs would have been just as successful as their first was unsuccessful.

This inclemency of the weather also often canses bad feeders, as it checks the flow of the birds' saliva, which is so important an adjunct to the parent birds in bringing up their food to feed the young with; in faet, in some eases, it thoroughly for a time destroys the power to do so. I would here say to those whose spirits have been crushed: Take courage; there is generally sunshine after rain, and do not be falsely led away by these faddists' theories and fairy tales that your trouble is caused by the use of hardboiled eggs. Good wholesome egg food and sound canary, sweet summer rape, and hemp seeds, not forgetting the green food, are essential foods during the breeding season. I have proved from years and years of practical experience,

not theory, that the best results and greatest success and strongest young birds are reared by their use, and every fancier of experience will bear me out in my remarks.

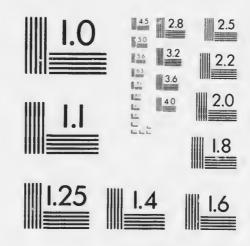
CARE IN THE USE OF HEMP SEED.—It is not advisable to give hemp to the adult birds except when they are feeding young, unless a spell of very cold weather during the early part of the season sets in. Then a little in a very sparing manner may be given oeeasionally. Hemp is often the cause of hens not laying and of males not fertilising their eggs, as birds fed liberally on this soon get over-fat; but while parents are feeding young there is not the fear of their getting over-fat, as they simply fill themselves with the seed, then immediately go to the nest and relieve themselves of it by feeding the young. I have never found the slighest harm ocenr from giving the parents a liberal supply of it while feeding, but as soon as they eease feeding a brood, discontinue the supply of hemp until they are going to feed another brood, and so on.

REGULATIONS IN HOT WEATHER.—Now, as the temperature increases it will be found of great benefit to reduce the quantity of egg food given at a time to the old birds feeding young. What I mean is this, if you have been in the habit of giving egg food twice a day, reduce the amount by giving it in smaller quantities oftener, if



MICROCOPY RESOLUTION TEST CHART

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1653 East Main Street Rochester, New York 14609 USA (716) 482 - 0300 - Phone (716) 288 - 5989 - Fax possible three times a day fresh—morning, noon, and evening. By doing this in the hot weather you keep the old birds working better, as they enjoy the fresh food. It brings them off the nest oftener, and allows the young to get more air, which they require as the weather gets warmer. Also a more liberal use of the bath for the old ones to bathe more frequently while working so hard in the hot weather will largely prevent them getting languid and eareless. Those hens which are sitting will also enjoy the bath a little oftener.

A COMMON AILMENT IN YOUNG BIRDS.—A young eanary's life, until it has got over its first moult, is something like a baby's until it has ent its teeth—a mass of little ailments which require immediate attention or they soon become serious, and ofttimes prove fatal. If you notice a young bird's beak, legs, and feet begin to turn pale and sickly-looking, one drop of best castor oil given direct into the beak and six drops of tinethre of gentian added to the drinking water for a week or ten days will very largely cheek what might otherwise prove a long and tedious illness. In fact, a little tincture of gentian, say five drops, added to the drinking water, fresh daily, two or three days every fortnight until they have got nicely away with the moult, will be found to put a check on a lot of sickness with young birds,

DIARRHEA IN Young.—Another important item which should not be overlooked when young birds leave the parents and start feeding themseives is they are much better without green food, as it is very liable to bring on diarrhea, a common but very fatal trouble with young birds. It is best not to give the green food after they leave the parents, also being careful to let their other tood be sweet and elean, and their water pure. By this means you very largely cheek this malady; should you, however, have the misfortune to have any young attacked with it give one drop of best easter oil direct into the beak > to clear the bowels, and if they are still on egg food add to it as much of the finest pure arrowroot as will lie on a five cent piece, and add to the drinking water a teaspoonful of lime water, or give cold strong tea to drink instead of water. A few drops of chlorodyne in the water is also very good, but the birds detest the smell of it and will not go to it unless they are parched with thirst.

KEEPING PEDIGREE.—Mr. Jno. Robson says: In breeding high-class birds it is necessary to keep the pedigree of each pair. The number of each pair should be registered up in pedigree book, with full description of each bird as to markings and pedigree. The youngsters should be marked, and there are several ways of doing this. The best method is to use "aluminum or

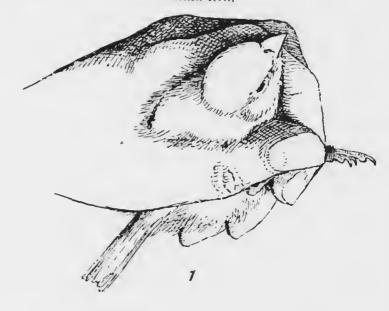
celluloid" closed rings, which are stamped with the date of the year, a letter and a number. The advantages of these rings over any others are that you cannot make any mistake as to a bird nor make a mistake as to its age. When the ring is placed on the leg the number should be entered immediately into the pedigree book on the same page as you have noted the parents, and thus at any time you can refer to the pedigree or the breeding stock book and be certain of the parentage of every bird you breed. These rings are also a great safeguard to novices as well as professionals, being undeniable proof of the age of the bird wearing them, and now (1918) birds thus rung are fetching better prices than unrung birds. These closed rings are not the least trouble to put on if the directions given are properly followed. When once the ring is on it is never removed, consequently there is no fear of losing the history of the birds.

If closed rings are not used certain noteness can be cut on the inside web of one or two of the feathers, as the case may be, so as to know your bird. There are also several good marking rings made now and much used. They are easily fixed round one of the legs, and are just as easily removed. These rings should be placed on the young birds' legs as soon as they leave the nest, as if they are not put on the leg until some weeks later the birds do not take kindly

to them, and try hard to peck them off, and so often injure their legs and feet, causing them to become swollen and inflamed, when if the ring is not removed they would probably permanently injure their leg. The numbers on the rings, whether closed or open, should be entered in your pedigree book against their parents' description for reference.

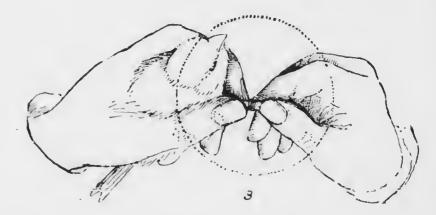
How to Ring Young Birds.—If well matured, ring on the seventh or eighth day, the ninth day being quite early enough if they have only made fair progress. The date mentioned is when the young birds can keep the nest clean themselves. If the ring is put on before the parents have to stop taking away the droppings the hen in cleaning the nest may see the ring and try to take it away, and thus earse trouble by biting the feet off her youngsters or otherwise injuring them. If care is taken to follow the directions carefully on this point trouble with the hens in this way will very seldom, if ever, arise. When the young are seven to nine days old, lift the nestpan quietly out of the breeding eage and stand it on the table in front of the window, so that you can see what you are doing.

1. Take one young bird at a time out of the nest, lay it across the fingers or in the palm of your left hand, whichever position you find most handy, then take the three front toes of one of the feet—usually the right leg is rung—holding









the three toes close together between the finger and thumb of the hand you have the bird in; then with the right hand slip the ring on to the three toes.

No. 1a shows the ring in position of 1, but with the hand removed.

2. The ring will pass up the toes quite easily without any pressure at all until you come to the joint, where the toes join the tarsus, commonly ealled the leg, where it needs a little pressure. This joint being the largest part the ring has to pass over, the ring must not be so large as to go over too easily, or it would be no protection as to the age of the bird, as under those conditions birds could be rung at any time and at any age. It is really this joint which prevents the ring being removed when the bird has matured or a young bird ring being put on to a matured bird.

Therefore a ring has to be used when the birds are seven to nine days old, which takes some slight pressure to pass over this joint, before the foot and joint have fully matured.

3. In slipping the ring over the joint the pressure used must be of the gentlest, and after you have slipped the ring over the three toes, if the tips of the toes are now taken between the forefinger and thumb of the right hand, and the ring is gently drawn over the joint with the finger and thumb of the left hand, in which you







have the bird, the task will be found ever so much easier, as any undue pressure on the leg is relieved by having hold of the toes with the right hand. Also, if the joint is moistened by a little of your own saliva or a touch of pure lard or damp soap, the ring will be found to slip over much easier than if the joint is dry.

No. 3 shows the three front toes now being held by the forefinger and thamb of the right hand, the leg steadied and strain taken off by this means, while the ring is being gently drawn over the joint with the forefinger and thumb of the left hand, in which the bird is being held.

3a shows more clearly the ring just drawn over the joint.

4 and 5. Once over the joint, pass the ring up the tarsus (leg), carrying the hind toe with it up the back of the leg until it slips out of the ring and comes back to its natural position. Then leave go of the ring, and it will be found to rest on the leg just above the joint, which prevents it slipping further or being taken off. Having thus adjusted the ring, wipe off any moisture there may be on the joint with a piece of soft linen rag, and return the young bird to the nest.

When you have rnng all in the nest, return the nest without any further delay to the parents or hen, as the case may be, and give a little fresh egg food or a spray of fresh green food to regain their confidence and encourage them to go on feeding the brood. Of course, you must keep a watchful eye that all is going on well for a day or two, but do not stand and gaze at the birds. Just cast an eye on them as you are attending

to the wants of the others, and you will soon see if they are feeding all right.

Hybrids or Mules.—When mating finches with canaries, it is usually the male finch and hen canary that are put together, the reason being that the female canary is more domesticated, therefore is likely to be a better mother.

As the finches do not mate until early in May, the hen canary can be used up to that time for breeding canaries only; some authorities hold that such use is beneficial. The great charm of mule breeding is its uncertainty, the larger, more stylish, and richer in colour the hen, the more likely is it that corresponding good points will be found in the mule.

It is well to procure finches early in the year, so that they may be tamed and thoroughly domesticated by breeding time—a matter of some consequence. The month of May is quite soon enough for "Goldie" to show such signs as are required. To get him into condition he must be fed on a stimulating diet: a little egg, maw seed, German rape, hemp seed, together with a little inga seed, if you can get some. When the last tinge of black has disappeared from his beak, and it begins to assume that delicate transparent pinky white colour, the admiration of muing men, it is time to think of putting him with his mate. If there are several finches at command they may be mated with hens precisely as can-

aries, but if not, a bird in the bloom of high condition may be "run" through a number of cages. He need not of necessity be allowed to remain long with his hens. A more tractable bird does not exist, nor one more amenable to home influences. If allowed to settle down with his hen he will make the most attentive mate, nursing and feeding in the most exemplary manner. There is some risk in leaving an untried bird with the hen after she lays, for he may prove inquisitive, and try to find out what is inside the eggs. If he shows any disposition to do so, he must be removed before the egg is laid, and after it is taken from the nest he can be put back.

As we have before stated, the great charm of mule breeding is its uncertainty; the probability is that all the mules will be dark, ordinary-looking birds; the possibility is, there may be among the nest of fledglings a single brilliant-coloured bird. To obtain a bird with wealth of white and gold is worth years of experiments.

There is nothing fresh to offer in the general management of young mules, which in no respect differs from that observed in the rearing of young canaries. Cayenne feeding and every other move being applied with telling effect.

Bullfinches mate with canaries, and sometimes a handsome bird is obtained. Speaking generally, all mules are dark and bear a strong resemblance to the parent finch, and are not, noless the latent canary elements are brought out under the magic influence of cayenne, particularly showy birds.

Linnets, Siskins, and Green finches may be mated with hen canaries, and also some American birds, such as the Bob-o-link, Yellowbird, and Nonpareil.

In addition to the common Mnles, viz., the offspring of a finch and a canary, there are, but far rarer, Finch and Finch Mules, by which is meant the Hybrids producing by pairing varieties of Finches. Chief among these is the Goldfinch and Bullfinch (the latter a hen) Mnle, beyond comparison the most beautiful example of the whole class. A Hybrid more common is the Goldfinch and Greenfinch (the latter a hen) Mnle, and the Linnet and Bullfinch (the latter a hen) Mnle, others could be added, but they do not come within our province.

Of course, as is well known, Mules themselves are not reproductive.

If you have a number of hens sitting it will be well to have a chart giving particulars (see end of the book).

CAGES.

It happens as with cages; the birds without despair to get in, and those within despair of getting out.—Montaigne.

It is desirable that the cage in which a canary is to live should be chosen with some degree of consideration, for if it is too small, the little songster will lead a life of great misery. The larger a dwelling, the less music you will in all probability get out of its occupant. He will think more of skipping and jumping about than singing: in short, he will pay more attention to his own amusement than to yours. A well-known writer says, "If there is one place more than another in which we like to see handsome e ges, it is in the working man's cottage. They help to cover his walls, and represent something amply repaying the pains bestowed in making them and in keeping them clean."

The old style was to make bird cages of soft wood, but wooden cages are more liable to harbour insects than metal ones.

Not many years ago the painted wire eages came into use, and they are still sold largely in country towns and by the departmental stores of large cities, where people go to look for bargains. These cages are far better than the old-fashioned wooden ones, and some of them are quite pretty,

but unless the cage is thoroughly japanned and dried in a high heat, this paint scales off and is apt to be eaten by the bird with injurious effect.

The most popular and handsome cages are now made of brass wire, thoroughly lacquered to prevent tarnishing. The cost is not much more than that charged for an ordinary painted wire cage. There are hundreds of different styles and sizes, well known to the public. The best improvement which has been added to the cage during recent tears is the wire screen around the bottom which is intended to prevent seed being scattered.

To clean a brass, silver or gold-plated cage always wash with a sponge or piece of old towel, using clear cold water and wipe dry. Never use soap. The surface of these cages being varnished, if hot water is used, they will have the appearance of being spattered with milk, which can never be removed. If they are scoured, the same as brass-ware ordinarily is, the varnish will be removed, and the cage begins to corrode, and unless polished very frequently, it will produce verdigris, which is very injurious to any bird.

If necessary, silver-plated and brass cages can be refinished and made in appearance equal to new. SMALL CAGES AS A CAUSE OF DISEASE.

About five-tenths of the diseases which befall our birds are caused by small eages, three-tenths by improper food and stale, dirty water, and about two-tenths by hereditary disease. Further, hereditary disease is, in some cases, first caused by small eages. The chief illnesses they bring on are three, viz.:—

1st. Asthma and all hing diseases;

2nd. Indigestion;

3rd. Liver complaints.

The natural state of a bird is, by its restless activity, constantly emptying and filling its lungs with pure air. How can it do this in the wretched little cages in which thousands of little pets pine away their miserable existence? The simplest sized cage for a single bird should not be of less dimensions than as follows:—13 inches long, 9 inches wide, 131/2 inches high. should be only two perches in it—one at the upper part at one end, and one at the lower part at the other-so that the bird can have plenty of room to jump backwards and forwards, and thus cause a regular action of its lungs, stomach, and liver. Do not, on any account, keep a bird in a round cage; it is most cruel, as the poor creature cannot get any exercise at all. A well-known fancier once said he would sooner

kill all the birds than keep one in a round eage, and I quite agree with him.

The perches should not be made of hard wood, nor should they be too smooth or thin, soft wood is preferable. The perches should be of such thickness that the claws of the bird may go about half way around them; instead of being the thickness of a pencil as is too frequently the case, they should be nearly twice that, oval in section with the broad uppermost.

Cages should always have false bottoms that will draw out, as they are more convenient for cleaning and there is less chance of disturbing the bird. If you wish to catch the bird in the cage always remove the perches first.

"The busy birds with nice selections call
Soft thistle down, grey moss and scattered wool;
Far from each prying eye the nest prepare,
Formed of warm moss and lined with softest hair,
Week after week, regardless of her food,
The incumbent linnet warms her future brood;
Each spotted egg with ivory bill she turns,
Day after day with fond impatience burns—
Hears the young prisoner chirping in his cell,
And breaks in hemispheres the fragile shell!"

COLOUR FED CANARIES.

And still, when winter spreads around
The chilling covering of the snow,
The woods in dreary silence bound
No more with sounds of joy o'erflow.
Beside my hearth I sit and hear
The same sweet music ringing clear,
And summer time within I know.

For look! when at the window swings
You blithe canary full of glee;
And answers to my call and sings
All day his varied melody,
So that I seem to hear again
The skylark's song across the main,
Or nightingale in Thessaly.

-W. W. Caldwell.

Many breeders desire to give to their birds a brilliant orange or a bright red plumage, other than nature has endowed them. For many years how to do this was kept a profound secret. Each breeder, with commendable selfishness, kept his particular knowledge private from everybody else and guarded the secret jealously.

At the close of the year 1871 rumours were rife of some extraordinary birds bred at Suttonin-Ashfield, England; they carried away the prizes, owing to their brilliant plumage, in their own neighbourhood. They were then exhibited at various shows all over England. At Sunderland the judges were satisfied with them,

but the committee in their zeal tested them in a way that was unjustifiable, literally scrubbing off the webb of the feathers in one bird's tail, and leaving it with twelve almost naked quills, and shortly after charged the exhibitor formally with having shown painted birds, at the same time producing as evidence, a handkerchief which was alleged to be stained with colouring matter from this multilated tail. On examination by an analytical chemist he gave the following certificate:

226 High St., Sunderland.

There is not the least trace of a pigment or foreign colouring matter of any kind on any of the feathers I took from the birds numbered respectively 1, 2 and 3.

John J. Nicholson, F.C.S.

In February, 1873, one of the keenest fanciers of the day, Mr. Ed. Bemrose, of Derby, brought ont two specimens for the Crystal Palace Show, which he declared owed their colour to nothing but the peculiar diet they were fed on, and delivered a promise that next season he would bring out not two, but a string of birds which he would send to every show in England, and with which he would take every prize from Whitby, in September, round to the Crystal Palace show again in 1874, and then he would give his secret to the world. And he kept his pro-

mise, for next season he was invincible, and the exhibitors of the colonr section of the canary family lay at his feet. Some accepted their defeat like men, others writhed and wriggled like worms. On December 11th, 1873, Mr. Bemrose published to the world the grand secret of the extraordinary colonr of the birds, and the agent used was nothing more than Cayenne Pepper.

Young birds should be put in "feed" early, at the age of seven or eight weeks old, because it is necessary that the colour process should commence while the feathers are yet in embryo. And what is "feed?" Perhaps half a dozen breeders would give as many different recipes, but the active agent in each would be cavenne pepper, which can be mixed with chopped egg and sweet biscuit or crumbs or any of the soft composition which birds are fond of. Regarding the amount of cayenne to be given, a well known anthority from whom we have quoted freely in this chapter says, "We recommend to begin with, one chopped egg with its equal bulk of sweet bisenit mixed with a teaspoonful of cayenne. The quantity can be increased or lessened as the birds seem to thrive upon it, and it can be increased almost ad infinitum in some instances, as there is no mistake about the birds being fond of it. Give seed very sparingly so long as the birds continue to do well on soft

food. The experience of a season will do more towards teaching a fancier the actual routine of this part of his business than a whole volume of instruction."

Having once begnn the colour feeding it is necessary that it should be done regularly, not feeding it for two or three days, and then forgetting it for a day or two; the result of this would be that the bird would have a blotched or patched appearance, some places of the plumage would be a bright, and others a pale colour, showing at once irregular colonr feeding. It does not do to feed them one day say at eight o'clock in the morning and the next at four o'clock in the afternoon. If you want an even colour you cannot be too systematic and regular. W. Rudd, a well-known English specialist on canaries, says, "If you want to feed for First Feather Shows commence three or four days after being hatched. If for Second Feather Shows when about six weeks old. With your old birds begin before they start to moult a single feather. In all cases birds may be fed from the nest with advantage.

"When feeding for eolours, keep the eage fronts covered nearly down to the bottom of the wires to avoid too much light on the birds during the moult. Many use brown paper tacked on the top of each eage, then you can lift it up

when you want to open the door or look at them. I prefer a piece of clean, white linen; the latter will also usually tell you if you have any parasites about, as they will get on this, and ean easily be seen. If you desire to feed young birds for exhibition, they must be 'tailed and flighted,' i.e., the flight and tail feathers all drawn, as young birds retain such feathers until the second moult consequently, if not drawn out the colour will not enter into these feathers, and they will show very white in contrast to all the rest of the plumage. Personally, I am against this practice, but whilst it is the fashion to show so (and a level coloured bird must stand before one that is not) and you wish to be in the running, it must be done. If you have never done any tailing and flighting do not start on a good bird at first, but get some experienced fancier to do a few birds for you; keep your eyes wide open while he is doing it, and then with a little care and ordinary intelligence you should be able to perform the task without giving the bird searcely any pain. Clumsily done, many a good bird has been 'hip-winged' by the process. Old birds, of course, do not require this, as they moult naturally all their feathers.

"Different persons have different ideas of tailing and flighting." The system I prefer is thus: After the birds have been well got on to

the colour feed, and are nine or ten weeks old, draw eight or nine of the short flights only; then the tail feathers and rest of the longer and stronger flights three weeks later. By this system the bird is not stripped of all such feathers at once, and the larger flights come out easier.

Regarding colonr feeding it is well to give the opinion of a well-known anthority on birds "Jerome" who says:—

Feeding on cayenne pepper is, in my opinion, both ernel and injurious to the birds, and I shall therefore say nothing about it. There is one method for feeding birds for colour, by means of natural food, which I recommend. I allude to marigold flowers. Some of the best coloured birds that have ever been shown were fed, as far as colour is concerned, only on marigold. Not only is no injury done to the birds by this mode of feeding, but I am convinced there is some property in these flowers that is beneficial to them. The best way to give these flowers to the birds is to fix the stalks in the wires so that the flowers may be close to the perch. They will eat the flowers freely, and this will produce a beautiful orange colour, provided that the birds are regularly fed with fresh flowers three times a day-but they will not produce the rich orange shade such as is produced by colour feeding with the prepared colour foods. Commence feeding

the young birds when they are six weeks old, and continue to feed until the moult is finished. Feed the old birds with marigolds the moment you see the first symptoms of moult. Birds on an average eat about three marigold heads each day. No leaves must be given, only the flowers.

Of course fanciers must not expect that they are going to get birds of a brilliant colour and sheen if there is not some good colour property already in the blood. This would not, in that case, be produced even if the birds were fed on the strongest colour food mixture instead of marigolds, to the extent it would be if the birds were also bred for colour. There must naturally be colour quality in the bird itself to produce good colour.

I have been informed by very reliable breeders that some birds have been well colour-fed on a preparation of tomato skins, but how they were prepared and preserved I have not heard. But if they can be preserved, without being mixed with any other colouring matter, they would be most wholesome.

CARE, TREATMENT AND DISEASES.

The young disease that must subdue at length,

Grows with his growth and strengthens with his strength.

—Pope.

Nearly all the ailments to which cage birds are liable (accidents and hereditary diseases excepted) can generally be traced to one of the following causes:—The first and greatest cause of all bird illness is a small cage, as in a small eage a bird cannot get proper exercise for its limbs, lungs, or stoomach. Secondly, comes the want of a sufficient supply of fresh gritty sand. Thirdly, dirty water, tins or glasses, and the stale water not all emptied away. Without these absolute first necessities of life, how can any fancier expect his birds to maintain their health? It is perfectly ridiculous to think it possible. Fourthly, the birds being hing in a draught or above the gas when lighted. Fifthly, the birds being kept in dark rooms, without proper ventilation and fresh air daily, also want of smalight; and its contrary, being lining in a hot sun without being able to retire into the shade. Sixthly, putting too many birds in one eage. Overcrowding is nearly always the cause of bird feyer.

THE BATH.—A canary should bathe all through the year two or three times a week, but not daily in cold weather. Remove seed and water cups and the base of eage, and set body of cage over the bathing dish of tepid water and then remove the perches. Put the water in a regular canary bath, about three-quarters of an inch deep. If the bird will not bathe in this try less water and perhaps some other shaped dish until you find one he will use, sometimes this being an old sancer with a quarter inch of water. See that the air of the room is at a right temperature and that there is no likelihood of the bird getting a chill. Some birds plunge right into the bath when placed before them but some only just wet their head and dress down their plumage. Some like a warm bath and some a cold, but whatever it is, be sure that the bird does not get cold. There are some birds that like fluttering in a sand bath which should be given to them.

Mr. Robson, whom we have frequently quoted, says:—

Another point that is well worthy of fanciers' attention, and is also beneficial to the birds' looks and health, is the bath. Some birds will not take to the bath on any account, let you do with them whatever you will, but, nevertheless, I am inclined to think this trouble is somewhat

attributable to the fancier himself, through his not getting his birds used to the bath when they are young at any rate, such has been my experience. There are isolated cases where they will not take it even when you start their young, but such instances are very rare indeed. Another thing which will sometimes break a bird off taking the bath is through your having, for some reason or other, had to cease giving him it for a time, and then when you give it to him again he will not bathe at all. I presume they are like some people—get into a bad habit of being rather afraid to use a little water, although beneficial. Be this as it may, one thing is certain, and that is, birds that do not bathe or have a water bath in some form or other do not, as a rule, look so well as those that do. There are a few exceptions to this rule, but genevally the plumage gets rough and unsightly, especially at this time of the year, February, and the feathers become dry and harsh, and it is not an uncommon occurrence for the shoulders to begin to get bare; the birds also get rough round the neck, and the few feathers left there display a fine hairy appearance. Insects will also cause this dejected appearance, but it is more often the lack of the bath which is the cause; and a bird that does not bathe is more subject to the ravages and torment of insects than a bird that does, so that you see the bath answers a threefold purpose, i.e., a health giver, phimage preserver, and insect abater.

I fancy I hear someone say, "But what are we to do with those that will not bathe, which you have just been speaking about?" In answer, I will say some old fanciers immerse them in a pan of tepid water, holding the bird in the hand all the time with the head just above the water, and lightly throwing a little of the water over the bird's head with their disengaged hand. I have recommended this process myself in the early part of this chapter, recommending disinfected water for getting rid of red mites from the bird's feather, when a bird has become infested with them before perhaps the owner has been aware of it, and in such eases I still advocate it. But for giving the bird a false baththat is, you giving it instead of the bird taking it in the ordinary way-I prefer using a wire eage set aside for the purpose and a fine spray. I know that this method will take a little longer to do, but if you give all those birds that will bathe themselves the bath in the usual way, you will not have many to do that will not bathe. There are so many nice sprays now made, and by using one of these you do not fluster your bird, as you can train them to run out of their own cage into the wire cage for you to spray them. By doing it this way your scheme will be answering a two-fold purpose by getting your

birds more steady and giving them a bath as well. It does not matter much what kind of a wire cage you use—a Yorkshire show eage answers well, and the birds do thoroughly enjoy it, as from the spray the water falls on them so fine and gradually, thoroughly moistening and cleansing the feathers, and when they are run back into their own cages there is such a fass, pluming and cleaning up, that anyone can see how delighted the birds are with he, and if this is done once or twice a week with these delinquents the improvement in them will soon be very marked indeed.

The baths that I use are square, and of white earthenware, 4 in. square, 1½ in. deep, which I place inside a small bath eage, with wood top and bottom and uprights and a border of wood 2 in. deep all the way round, and wired three sides; the other side, which is not wired round, hangs in front of the open door of the bird's living eage, and they go freely in to bathe, it being nice and light. By this means you keep the living eage dry, and it is more healthy and comfortable than the old way of putting the bath into the eage in which the birds live.

Hanging Place.—The bird may hang in the sunshine fifteen minutes, not longer, to dry his feathers after the bath, but a bird hanging in the sunshine at mid-day is in a bad place for his

health and song. Nearly all birds keep in better health if not kept near the window. Many windows are said to be air tight, but none are sufficiently air tight to hang a bird near in cold weather, and do not forget to cover the bird up at night when he has gone to roost. A shawl or towel arranged partly around a cage and left open near the bottom causes a draught through the cage and about the bird and is worse than no covering. If you ever move a bird from one place to another do it slowly and not hurriedly.

WATER.—A daily supply of water should be given for drinking, and put so that it is situated on the outside of the cage, so that the bird can easily get at it. Many a bird is killed through want of water or food while their tins or bottles have plenty in them, simply because they are not set so as the bird can get at them; perhaps in the harry of the moment the vessels have not been placed low enough, and the poor bird cannot either eat or drink, and no answer is given to his mournful chirps. The owner of a bird is in duty bound to see that his little charge can get enough to eat and drink. In warm weather fresh water should be given at least twice a day, as it is just as refreshing to the birds to have a drink of fresh water as it is to people.

The 'est means of giving a bird a constant supply of clean, fresh water (which is absolutely

necessary if the bird is to have good health) is by a glass fountain outside the eage. These fountains require to be kept scrupulously clean, or they will soon become foul and smell. Be sure and empty away every drop of the stale water, and well rnb the fountain inside with your fingers, and thoroughly rinse before fresh is put in. If the glass fountain is not used, the next best thing is a penny water tin. Do not use one made of zinc. After the water has been in zine two or three hours, a film for s on the top of it which is injurious to the bir 3. Never on any account add fresh water to stale, as in time it will become impure, act as a slow poison, cause diarrhoa and death. Hundreds of birds die from this eause every year.

Temperature.—Sudden changes of temperature are bad for the voice and health, 65° to 70° is about right. Do not leave a bird in a room in cold weather when the window is open to air the room. What the bird needs is a regular temperature and be very careful about keeping it free from draughts, even on a warm summer day not to place it outside in front of a door or window so that there is a current of air going through the cage, but hang the cage in front of a blank wall, etc. Another important point is to have your bird-room well ventilated so as to avoid musty smells or odours.

Position.—The best height to place a canary is from three to five and a half feet from the floor, and in a not too light place if you wish soft, sweet songs. The finest grades of canaries sing best often in a half light. A bird has his own little fancies often which must be catered for to get all you can out of him. He will sometimes sing better in one place than in another, and a little experimenting to find which is his most suitable place is often advantageous. Birds should never be in a room where particles of dust fill the air because dust injures the voice. Do not luang the bird in the sunshine except just after a bath for a few minutes.

Gas is a great enemy to our little friends, owing to the want of thought and proper consideration on the part of their owners. It is perfectly cruel to keep birds hung up above the level of the gas when it is alight; it throws them into a constant moult, gets them into a very weak state, and ntterly rnins their song.

Canaries will stand a good deal of dry cold in winter if in a large cage, where they can get plenty of exercise but ten minutes in a draught, even in summer, has been fatal to hundreds. To keep a bird in perfect health treat him, as to these matters, in exactly the same way you would have him treat you were your positions changed.

The canary is easily kept in song all through

the year, in most cases right through the moulting period, if the food and care is right.

Don't take chances about buying a cheap bird for you lose every time, and a cheap bird costs just as much to keep as a good one.

Don't bny poor seed or gravel; they eost you more in loss of song or bird than three times the price of the best seeds. Buy seeds and gravel put up by a trustworthy house. (See advt. at end.)

Don'r hang the bird in the window or too high in a room, as the atmosphere is more impure the nearer you get - ae eeiling.

Don't hang the bird where there is a draught or in a kitchen or lanndry where there is steam or damp air, and avoid sudden changes of temperature. Beware of stove gas, etc., as no bird can thrive in a vitiated atmosphere. Such places cause birds to moult at unseasonable periods, having what is known as "soft moult," often losing their song.

Don't give figs, sugar, candy, grapes or any other luxuries.

Don'r feed mustard seed or hemp seed to the bird.

Don't let the canary fly around the room if you want his best song.

It has been frequently asserted that birds in their natural state are never sick, but this belief is unfounded, as there are many instances which are too well anthenticated to admit of doubt, but like all tame animals, birds that are kept in confinement are exposed to more maladies than those that live at large. This trouble is eaused largely by want of cleanliness, by lack of gravel in the cages, and by hanging the eage in such a place that the bird is in a draught of air, thus causing it to be affected by cold, loss of voice, asthma, etc. These maladies are greatly increased by giving birds various kinds of delicaeies, such as candy, sugar, pastry, etc. In this connection we want to say that a bird's health and song depend largely upon the selection of seed or other food for it. If properly fed and supplied with pure fresh water, the cage regularly cleaned and kept free from insects, disease will seldom make its appearance. One very frequent cause of trouble is hanging the bird close to the top of the window with the sash lowered about a foot, thus eausing a strong draught of air or putting the cage in a room which is kept very warn during the day and very cold at night.

When a bird is in good health his appearance is usually sleek and smooth with the feathers lying closely to his body. When you perceive him sitting dull and stupid and all hunched up, something is out of order. In this chapter

we refer specially to the diseases of canaries and other seed-eating birds. For Parrots and Mocking Birds see their respective headings. All the remedies which we refer to are common home remedies which will be found in almost any household, and can be used at once without waiting to send to any dealer for medicines. There are many special or proprietary medicines sold by dealers for the various diseases, and it is well to keep some of them for emergencies.

Diseases,-Colds, poor and improper food, and impure water are the cause of most diseases. A bird with a cold is puffed up, feathers ruffled, sometimes remaining still on the perch and breathing hard, and at times hopping about on the bottom of the cage and constantly eating. Do not let the cold "run" for it will likely run away with the bird. Give the egg paste mentioned on page 50, with as much cayenne as will stay on a ten cent piece. A teaspoenful each of rock eandy and glycerine dissolved in a quarter of a pint of water with ten or fifteen drops of paregorie added makes a good congh mixture. Hang a piece of raw fat pork in the cage and let him eat this and put in a new piece every other day.

Loss of Voice.—This is usually eaused by overfeeding, oversinging, or a cold—generally the latter during moulting. The longer a bird

has not been singing the harder it is to get him in song again.

Give him a hard boiled egg mixed with breadernmbs chopped fine—well sprinkled with eayenne or red pepper. Do not be afraid of the eayenne, for the bird likes it.

Give him a teaspoonful of the food every two or three hours. See it is always fresh. Yesterday's will not do for to-day. Hang a piece of raw fat bacon well sprinkled with eayenne in the cage. Put a little sugar in the drinking water. A cake of Bird Treat should always be in the cage at this period especially. We think if your bird is a singer and you follow this advice, he will soon be in song again.

ASTHMA.—This fearful disease is generally caused by exposure to wet or cold, but sometimes by local irritation: for instance, by placing a bird between a door and a window where it will catch a draught, or by placing a bird too high up in a room above the level of the gas burners. When the bird is affected with asthma you will notice it opening its beak as if to gasp for air, short breath, wheezing and puffing out of feathers until the bird has the appearance of a ball. Give egg paste same as for a cold. Put from two to six drops of whisky in the drinking water which should be given warm, that is from five to ten per cent. of whiskey in the water. Keep the

bird in a warm place and cut a piece of raw fat salt pork into bits like seeds and well sprinkle with cayenne pepper. A teaspoonful of quite warm milk with bread in it is good, and a bit of sponge cage soaked in sherry wine may be put in a separate dish. All these remedies should be given fresh two or three times a day. Withhold the canary seed and moisten the rape seed so that the dust will be removed and the hulls will be made soft; this should be made fresh a little at a time for the rape moistened will soon go sour.

Diarrhoea.—Many birds suffer from this disease which is frequently fatal and is caused by a cold, foul drinking water, musty seed or unsnitable food, such as sour egg food. Symptoms: The evacuations, frequent and watery, which very soon causes the extreme weakening of the bird. Cme the cold if it has one; change the water and seed or food and put a rusty nail in the water. A piece of common chalk should be placed between the wires of the cage or put some powdered chalk in the bottom of the cage with the gravel. Two to five drop of paregoric in its drinking water, or the same amount of brandy sometimes helps to cure severe cases. Feed some egg food without the cavenne. Examine the little patient and should the exerements have gined the feathers together so as to

obstruct the passage, it is well to cut the adhering feathers earefully away with a pair of seissors and anoint the parts with sweet oil.

Constipation.—From four to six drops of easter oil dropped in the bird's mouth and also apply the same to the vent and this usually affords prompt relief. Freshly grated raw carrot powdered over with sugar is greatly relished, and feed apples or green food. In severe continued cases put two drops of glycerine in a teaspoonful of warm, soapy water and give an injection of ten drops with the dropper or quill. A second injection if needed may be given in a few minutes.

EPILEPSY AND FITS.—This is caused by too rich food or too frequent mating, either one of which may cause a partial suspension of the heart's action; or it may be caused by fright. When the bird is attacked hold the cage in the fresh air and sprinkle a few drops of ice cold water on the bird's head. If possible discover the cause. Hanging the cage in the hot sun sometimes causes fits; in this case smelling salts are required in addition to the water. The diet should be carefully regulated. Add more rape seed to the food.

INFLAMMATION OF THE BOWELS.—This is a very common disease with cage birds and may be eaused either by faulty feeding, a chill or a

sudden change in the weather. No time should be lost in applying a remedy. Symptoms: Fullness in the lower part of the body; a dull and heavy appearance, feathers disarranged. continued drinking, but little appetite. The bird rarely stands up on his feet as he should, but rests his body on the perch and does not sing. If the invalid is examined the lower part of the abdomen will be found to be a colour varying from rich red to a dark red. The food should be changed and the cage well cleaned. Keep the bird warm and quiet in a cage by itself and amoint the vent with olive oil. A small camel's hair brush is best to anoint with but if not obtainable a small feather will answer very well. Open the bowels if there is constipation. food should be of the lightest description, light bisenit or bread soaked in milk and given fresh every three hours should be the main diet. From five to ten drops of brandy may be added to the drinking water if the bird seems quite weak. As the bird's health improves give it egg food and a cake of Bird Treat.

Cramps are caused by filthy eages and too close confinement in a small cage, or bathing too frequently. One bath a day or a bath on alternate days is frequent enough. Sometimes it is caused by indigestion. They may be cured by adding a few drops of landamum to the drinking

water. If the legs, which may be noticed by the nervons contraction of both members, the best cure is to bathe the legs in warm water.

The Pip is a small swelling which appears on the bird's rump. It may be easily enred by opening the swelling with a needle and rubbing a little cold cream gently on it.

Surreit in old birds is indicated by a slight eruption on the body, and an extending baldness on the head. It is caused by an abrupt change of food or by continued plain diet. Add a few grains of Epsom Salts to the water and give a piece of apple daily, if this does not cause diarrhea, and feed Bird Treat. Feed only plain rape seed and rub the head with a simple ointment.

YELLOW GALL is indicated by a small uleer or a number of them around the eyes. If the bird has been fed on plain food change to a more nonrishing diet, but if too rich change it to rape seed only. The ulcers should be cut and rubbed with ointment made of a strong solution of sugar of lead with soft water. Saturate the ulcers thoroughly with this, and bathe the sore parts three or four times a day until healed.

INFECTIOUS DISEASES.—These arise from overcrowded bird rooms, where the air becomes so foul that disease must surely be the result. Bird owners that keep only a few birds are not nsually affected by it. In appearance a bird may be perfectly healthy and sing, and yet the disease lurks in his system and results fatally unless speedy means are taken to check it.

When the disease appears among a small number of birds, it may result from unclean or poisonous drinking water, and is shown by numerons alcers on the head and body. In other cases it is noticed by the short gasps of the bird, as though in great distress. As soon as noticed, all cages in the room should be thoroughly eleansed and disinfected, and the seed, water and bath cups thoroughly cleansed. Keep the birds in the purest atmosphere possible; sunshine is also good. Feed such birds on plain seeds, with a little maw seed in the mixture. Green food and egg-mixture should not be given during the rnn of the Lisease. Add to the drinking water a teaspoonful of brandy and a few drops of paregorie; float this mixture with a little cayenne pepper. The above remedy has resulted in the complete recovery when the disease was promptly attended to. If allowed to run without checking, the result will be surely fatal.

Sore Feet are the result usually of filthy cages. Very often the perch is placed directly over another so that the droppings from the bird on the perch above falls on the perch below, in which their feet become elogged. Sometimes

it is caused by the perch being too small and the bird's claws meet, often crippling the bird and causing the ends of the claws to strike the underside of the foot. It is also eaused from inattention to the legs and feet while the bird is growing old. Cleanse dirty feet by soaking them in warm water, removing all partieles of dirt, and anoint with vaseline. If the soreness is caused by scales which grow on the bird's legs as he gets older, take the bird in hand and anoint the affected parts with cold cream, and after three or four applications daily for three or four days, gently remove the scales with the back edge of a penknife blade, being eareful not to break the underskin. When the scales are removed as much as possible, anoint daily until legs and feet are healed.

RED AND SWOLLEN FEET AND LEGS are usually caused by too little green food and too much plain canary seed. Add more rape seed to the ordinary quantity in the seed and give a piece of apple the size of a thimble, every other day or even every day, if it does not cause diarrhea.

Bare Places about the eyes or above the beak or around the neek are caused by the blood being out of order which causes irritation of the skin. Often the bird is kept in too warm a place, such as some kitchens are, especially during cooking time. Give 2 dose of Epsom Salts

equal to what will cover a ten cent piece to each two tablespoonfuls of drinking water in one day. Also a little piece of sweet apple, banana, or some other kind of fruit. A piece of suct is a good thing. After which a little boiled milk with bread may be given once a week. Good seed and clean water will do the rest.

PULLING THE FEATHERS from the body is generally caused by bad blood. Give a plain diet and mix a little salt with the egg paste. Treat same as for bare places, etc., described above.

A HARD GROWTH which forms just above the beak may be touched daily with vaseline. After a time the core will drop off. This is a blood trouble. Put more rape in the food and give apple as above.

The general ery is, "My bird will not eat the rape." On enquiry you will generally find the so-called rape is only wild mustard seed or a kind of turnip seed put in by some unsernpulous and unprincipled bird seed dealer, or that the mixture contains too much millet, or that so much seed is given each day that the bird does not clean up his dish and perhaps takes the canary seed in preference to the rape. The bird owner cannot be too particular about the quality of the food, and see that the packet has the manufacturer's name on the label, if that is not on, then beware of it, as it is evidently put up

by some people who are ashamed of their work and therefore afraid to put their name on. Be sure that there is a cake of Bird Treat put up in a round tin in each packet and then you can rely on having good, wholesome seed for your feathered pets. (See advertisement at end of book.)

Cutting Braks.—During the winter months, with birds that get a bit out of condition, it will often be found that their beaks grow much quicker than if they were in health. This should be watched, and when necessary the overgrowth should be trimmed very carefully with a fine pair of sharp seissors, otherwise it may interfere with the birds feeding properly. Besides, if not attended to it encourages a rough and irregular edging to form on each side of the upper mandible, and certainly spoils the look of the beak. Of course some birds' beaks will go this way, do what you will, but it is largely prevented if the beaks are attended to properly. however, must be careful in such an operation. for if the horny part be cut into the quick the beak will bleed freely, and they will be guilty of gross cruelty; they would do well at first, if any interference with Nature be absolutly necessary, to ask the aid of an experienced fancier.

Trimming Toe-Nails.—A look should also be given to see that there are no overgrown toe-

nails, as birds with overgrown toe-nails are more liable to get their feet eaught or get hung up on the wires, and in some cases possibly fracture a leg. All claws overgrown should be cut back with a sharp pair of seissors, one at a time, holding each toe as you do it between your finger and thumb. Be sure not to cut into the quick or pinch one of the other toes with the seissors while you are cutting the other nail.

Broken Legs may be set if broken between the joints. Shear the feathers off around the break, and draw the leg carefully away from the body, so that the ends of the bone may be pressed into place. Then place strips of court plaster a sixteenth of an inch wide, inside and outside the leg, and extending one-third inch, if possible, past the break. Other narrow strips may be put around the leg in three or four places to hold the lengthwise court plaster splints in position. Some people get a small quill and split it down one side so that it will go around the bird's leg and act as a splint, and then secure it tightly with thread. Afterwards place the bird in a small eage without perches on some soft hay, etc., and put food, seeds, Bird Treat, and water inside the eage, on the bottom, so the bird will not have to striggle to get them and thus dislocate the break.

A Bird is Pitted Ur when he has diarrhea, when constipated, then he has been neglected in food or water, when he has a cold, when a mouse gets in his cage at night, when he is are devouring him, or generally when he is diseased.

Mici: are a source of torture to canaries and oftentimes succeed in frightening healthy birds into sickness and even to death. You will sometimes perceive your canary drooping and sickly in appearance from no apparent cause, and this is provoking, considering the care you have given him. If there are mice in the house and any chance of getting at the seed, rest assured they will get there. Bird seeds are as delicious as the best brands of cheese, and they will enter the cage in the dark, and make your bird sick enough to satisfy the most ambitions bird doctor. The only remedy is to hang them out of all possible reach, beware of curtains, etc., for a mouse will think nothing of creeping up that, or even a hard surface if it is not exactly vertical. In case of the breeding-room, to effectually bar them out, use zinc.

INSECTS are worse even than mice for they are more stealthy and do not leave such traces of their visits, but succeed in so completely torturing the bird that life becomes a burden and he gradually consumes away. The symptoms are a puffed appearance, alternating with a

scratching, shaking, and frequently pecking at the body. Put a white cloth over his eage at night and in the morning you will probably find many of the tiny red insects. It sometimes seems as if they came out of the air and get on the bird regardless of the best care and attention. A favourite resort is just around the serew which fastens the hook or ring of the cage, this is often fastened to a piece of wood, and around these the mites harbour in the day time, and descend on the bird at night, giving the bird no sleep, which is perhaps more important than food. Wash your cage thoroughly, being especially careful to remove the top or handle, as the insects swarm under that cap. After washing, dust it thoroughly with the best bird insect powder that you can obtain (see advertisement at end of book) take the bird in your hand and dust the same powder theroughly through his feathers, using your fingers, and see that all parts of the bird receive plenty of the powder. It will be necessary to make another application of the insect powder three or four days later, as the nits or eggs will be hatched out in the meantime. If you use a wooden eage it will be necessary to scald it thoroughly and varnish or oil the woodwork. Dry the varnish to a hard condition before using it again. The bird insect powder is harmless to the bird, but will kill the mites. Young insects are black.

Mr. John Robson gives the following treatment:—

Another point that I find some fanciers adopt, especially young ones, is that if their birds get any insects on them they commence dusting them with insect powder. This is a mistake. Insect powder is very good for dusting the nest and cage, but I do not approve of it being put on the birds.

If your birds are free bathers give them a liberal bath, and add to it a little concentrated infusion of quassia (a teaspoonful to half a pint of water); this will eradicate any mites that may be on them before going into their clean cages. If they will not bathe themselves, fill a bowl with Inkewarm water, with a little quassia added in the same proportion, and catch each bird that will not wash, and give it a shuicing by holding it in the left hand over the bowl and throwing the water over it with the right hand, but do not drench them, just damp the feather. If you have to do this you must mind that the temperature of the room in which you do it be not under 60 degrees until the birds are dry, which will be in about half an hour.

Another authority, "Jerome," writes:— The best remedy for ridding cages of insects is fir-tree oil, which should be painted in all the crevices of the cage, but being a very sticky substance, many fanciers object to it on this account. Turpentine is equally powerful, and has no sticky tendency. Carbolic and water in equal parts is another powerful remedy, and should be applied in like manner.

THE MOULTING SEASON with birds a year old or more, is regularly in some parts of August, September or October and generally last some six to eight weeks, or with very old birds, sometimes longer. It is a perfectly natural operation, and still it is often attended with illness of various kinds, as it is a very weakening process, and this is why the bird should then have extra strengthening food and be in a comfortably warm place, say 70°, ont of all draughts, and with the eage covered at 6 p.m. Give egg food daily, and be sure it has a cake of Bird Treat in the cage. A bird in good health should monlt only once a year and at this period; birds moulting at other times have colds or have been in an impure atmosphere when there has been stove gas, etc.. or often where it is too warm, such as some kitchens are, especially at cooking time. Of course the first thing to do is to remove the cause, and then treat the bird for a cold.

USE OF SALT DURING MOULT.—A piece of salt or salt rock stuck in the wires for the birds to

peck at will be found of much benefit, but it should be put so that they cannot get their feet on it, as it is liable to cause them to crack.

Sore Eyes.—The juice of a red beet given the bird internally and also a wash for the eyes greatly relieves this disorder. Goldfinches are frequently affected by it when fed too much hemp seed. Anointing the eyes with fresh butter has been known to give excellent results.

Some bird fanciers describe many other bird ailments, but in the end admit that they know little about it. It is easier and better to keep a bird well than to care it when sick.

Birds Going Light.—At this time of year (July) birds often go light, or waste away, lose flesh, etc. Both young and old are very liable to this malady, and where young birds have been bred from weakly parents, in almost every case they will die before they get well into moult, which brings out all the hidden troubles. It is very seluom that you can save a bird like this -in fact, it is not much good trying, as they are never, as a rule, any good to their owner. I do not wish to be mismnderstood here, or for anyone to think that every bird they have a trouble with is, or has been, bred from weakly stock, for this is not the case, as hundreds of young birds bred from the soundest and healthiest of stock are taken off yearly by the moult.

Where birds begin to go light I have found nothing better than cod-liv r oil and iron, two parts oil to one of iron, and six drops to one teaspoonful of egg and biscuit, also a piece of fresh beef or mutton snet stuck in the wires for the birds to pick will be found very beneficial. It should be placed so that the bird can just reach it to pick it; by this means it will not soil its phumage. In cases where a bird shows signs of temporary chest weakness, linseed tea given to drink will be found a good thing. Put a teaspoonful of linseed to a cup of boiling water, let it stand till cold, then strain off and give to the bird to drink in its ordinary drinking vessel for a few days instead of water. A little scalded German rape seed is also very beneficial in cases of chest weakness. For loss of appetite, when the bird simply picks over its food but does not enjoy it, put ten cents of quinine into an eighth of a pint of sherry wine; give six drops of this mixture in two tablespoonfuls of drinking water fresh daily until the bird begins to feed freely again. All these maladies and many more, proceed from the strain of moulting on the bird.

Young Bred's Hand Toe Slipping Forward.—Mr. Robson says: The slipping forward of one or both hind toes of some young birds as soon as they leave the nest is of frequent occurrence. That is, the hind toe turns in under the three

front toes, and the bird as it stands on the perch stands on the top of the toe instead of the toe going round and gripping the perch behind, in fact, where both hind toes are affected the bird is unable to stand on the perch. It is a trouble easily cured if attended to at once as soon as the bird leaves the nest. Get a small piece of black rubber tubing like that used for babies' feeding bottles. Cut off a small ring of this about 1/8 in. broad, then eateh the bird, hold the three front toes between the finger and thumb of the hand in which you have the bird, and with the other hand slip the little rubber ring over the three front toes, carrying the hind toe back with it up the back of the leg. Let the rubber ring hold it in that position for a week or ten days, then remove the ring and see if the toe keeps in its proper position. Should it attempt to come forward again, replace the ring for a few days longer. This simple arrangement rarely fails to effect a cure of the defect in the time I mention.

The Oil Gland.—Mr. John Robson says: Another thing which is often mistaken for a source of trouble is the "oil gland," which is located just above the root of the tail on the rump or bottom of the back. Many a poor bird has been put to needless misery through this gift of Nature being tampered with. This is a small raised gland about the size of a small split pea,

of a slightly pale yellow-coloured substance, placed, as I have already stated, at the bottom of the back; it is charged with an oily fluid, which the bird applies to the feathers on its body by means of its beak. No doubt my readers have often noticed their bird pecking a great deal at the root of the tail as it were, and running its beak through the feathers on the various parts of its body, and then dressing and shaking and making all the fuss imaginablehaving, in other words, a good clean up. This is life to the bird and its plumage, which the bird knows by instinct how to use in a proper way. Now, some people when they see this oil gland fancy the bird has got an abcess, and it has been described by others as the pip, and numerous other terms have been used for it, and thinking that it should not be there, they start tampering with it in ignorance, some picking the substances, to let the matter out as they think, others pinch it with the figers to clear it, while others pull the finger nail over it, thus giving the birds terrible pain and causing inflammation, and in some cases death. There is not the slightest necessity to meddle with this oil gland at all, for while the bird is in health it will do all that is necessary in that respect. A bird would have to be terribly weak and ill, in fact scarcely able to stand at all, before it would require any interference on your part with the oil gland, and

only then if you found on blowing the feathers aside that the gland was very much swollen and Even in such a state as this all that inflamed. is necessary generally is to just moisten the gland with a little olive oil or vaseline or petroleum jelly once daily, and if the bird regains its health it will soon put it right by any further treatment it (the gland) may require. Should the gland not be relieved by this treatment in the course of six days, and the inflammation and swelling are still increasing, slightly prick the gland with a very fine needle, afterwards slightly anointing with a little pure lard or vase-I have spoken at some length on this subject, as several cases have come under my notice in which birds have been put to much unnecessary pain and misery.

To prevent diseases in birds use the best quality of seeds, put up by some reputable firm, such as Broek's Bird Seed (see advertisement at end of book), clean fresh water for drinking and bathing, coarse sea gravel, a piece of cuttle bone, a little green stuff quite fresh, and a cake of Bird Treat made up in a round tin to fasten to the cage. If these are supplemented by light airy rooms, where the bird may have one or two hours of the morning smulight each day and regular attention, your bird, if fairly well bred, will be subject to few diseases.

Many bird doctors handle a bird medicine or

tonie which is a stimulant and invigorates the bird, and in this way assists it to recover from many bird ills.

All the small seed-eating birds such as the Bullfinch, the Goldfinch, the Linnet and Indigo and Nonpareii and small Finches may be treated in cases of sickness just like the canary.

Wrapping Birds.—There are many people who think that a bird will smother if covered up closely. Such is not the ease. In packing birds for removal great care should be taken that the eage is thoroughly protected with at least two or three thicknesses of stont wrapping paper, allowing no apertures to be left through which a draught might strike the bird. All the ventilation necessary may be provided by puncturing a few very small holes in the paper covering at the top of the cage, never making or leaving holes in paper covering the sides of the cage. Paper is more suitable for this purpose than either woollen or cotton fabrics. We are aware that many people are reluctant to trust a bird to the supposed rough handling of an expressman. The expressman may handle a trunk roughly, and throw packages around in a careless manner, but not the little innocent bird.

Write to Nicholson & Brock, of Toronto, Canada, the well known Bird Food dealers, who will be able to help you and give you advice free of charge.

WASHING CANARIES.

Little dew drops of celestial melody.

- Carlule.

We are told that "cleanliness is next to godliness," and many a good bird has lost a fair chance at the show, simply because its toilet had not been properly attended to-hence most birds have to be washed before being exhibited. although the necessity for "tubbing" must be considered an evil. The evil of too frequent washing is a kind of giving away of the feathers which might almost be called a rubbing ont which is apt to show itself at the back of the neck. Have some hot water on the stove and also a good bright fire ready. An open wire eage should previously have been got ready to be used as a "drying" cage, and must have the bottom covered over with clean flamel or some handy woollen article; this is placed where a good heat from the fire can reach it. Get a few clean and soft cloths, be sure they are both clean and soft; and get three good sized basins; heavy washing basins are very suitable as not being easily overturned. The first basin or pan should be half filled with luke warm water. Dissolve in it a little bit of washing soda about

the size of a nut, and then taking in one hand a piece of good white soap (shaving seap is an admirable article) and in the other a soft shaving brush, alternately dip in the water and rub over the soap till you have a basinful of good suds. Half fill the other basins with warm water full blood heat, but not more; if you have a



thermometer you may keep it at 90°. The soap must be placed handy, and it is a good plan to bed it in the soap dish with flannel so that it will not slip about. With these preparations you are ready to begin. Take your first bird and place it along the palm of the left hand, as

in Fig. 1, the head towards the wrist, and the tail projecting between the thumb and forefinger, while the other fingers hold the bird lightly but firmly, the little finger securing the head, and the others shoulder or side of the wing. It will be readily found that in this position the bird can be held lightly yet with perfect security, and that the position of its body can be changed at convenience, according as the back or sides are being done. Immerse all but just the head in the suds for a few seconds, whilst the lather brush is being plied with telegraphic speed over the soap; and as soon as a good free lather is obtained in the brush, lift the bird out, remove the thumb or second finger out of the way, and wash well with the brush the lower part of the body, the wing and tail; always working in the same direction as the feathers lie, and occasionally dipping the parts being washed in the snds. Do this until the dirt seems got out; then hold the bird with the forefinger and thumb, and remove the other fingers sufficiently and alternately, like those of a violinist, to give space for the head and shoulders being washed, taking care that the dirt is well removed round the beak; the third finger placed under the throat will readily raise the head for that purpose. It is no use attempting to be too particular about the eyes; you had better forget that the bird has any,

except that you will of course take care the brush itself does not come agrinst those delicate organs. The soap will, and you cannot help it, so it is no use fretting, and most sensible birds shut their eyes. Being satisfied that the back is clean, turn the bird over in the hand (Fig. 2), with its head coming under the little finger to-



Fig. 2

wards the wrist as before, and again commence brushing the wings and tail, opening the wings as much as possible. Finish off with the throat and belly.

So far all is pretty simple. At first, most people seem afraid to handle a canary, thinking

something dreadful will happen. Once overcome this and you simply have to get the dirt out, being careful to move the brush only in the general direction of the feathers, seeing that there is no particular pressure on any part of the body, especially on the belly. Having got the bird clean, squeeze the suds from the brush, and with it wash out the soap with the water in the second basin. Finally holding the bird, which is now comparatively tame in as perpendimlar a position as possible, scoop the water in the third basin over it with the right hand until it is perfectly free from soap; after which draw the flights and tail gently through the fingers to remove as much water as possible before proceeding to the drying stage. If preferred, a sponge may be used for the final rinsing, and the bird may even be dipped and freely moved in the clean warm water, keeping the head out of course, unless for a moment. Remember, however, you do it, that the great point is to get every least particle of soap complelely ont of the plumage; any left in will hinder proportionately a good result. Having wrung the bird well out with the fingers, take one of the soft cloths, previously well warmed at the fire, wrap the bird in it, and "dab" it gently between the hands until the worst of the wet is soaked up by the cloth. Be sure that the water is well

absorbed from about the belly, vent, and under the wings. An excellent method of "towelling" for effecting this purpose is to place a second dry and hot cloth over the left hand; then take the bird by the right hand, with the two first fingers under the belly and thumb over the root of the tail and ends of the wings, when the patient will open its wings a little at the shoulders. At once you pop in the covered left thumb under one wing (extending between wing and body)

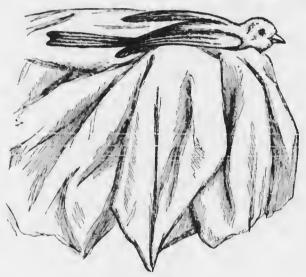


Fig. 3.

and the left, second and third fingers (also covered by the warm cloth) under the other wing (see Fig. 3), which will, with a little judicious manipulation, rapidly soak up all the wet all along the belly and under the wings. After

this the left fore finger, brought up over the right side of the bird's neek, holds it securely while the right hand takes up the loose end of the cloth and wipes over the head, down the back, flights and tail. The wet being in the main soaked up, take another piece of hot, dry cloth in the right hand and stroke the plumage into position, and place the bird in the drying cage, pretty near the fire. See particularly that the plumage lies right, about the back of the neck and rump. The bird may appear nearly dead, in which case some think it best to hold it quietly in a cloth near the fire till a good pulsation ensues, when they place it in the cage. But very few-not one in hundreds-really do die, and it is as well to place the bird in the warm flannel-lined cage at once on its back on the flannel, with the tail pointing towards the fire. It will generally lie there until the belly is dry, when it will turn over suddenly, and hop either on the perch or the wires of the eage, taking care of itself till the feathers assume their natural appearance. Here a word of cantion is necessary; the drying cage must be very warm, the danger of chill being considerable. On the other hand, if too hot, and especially if the wires get hot, such neglect might be worse than a chill. It is advisable, therefore, to keep turning the cage round to avoid this. A much better

plan is to use a wooden box open one side, and closed in every other part except a small window and the door. The open side should be covered with clean unbleached linen, and the inside lined with clean stuff and supplied with perches. Such a box may be opened to the fire till it is nicely warm, when the linen front drawn down or shut down will shade off all fierce glare, yet keep the temperature what is desired. Or a larger cage may be employed, and covered on all sides but that towards the fire, when it will be found that a greater distance may be preserved.

Throughout the washing the heat of the water should be kept up by judicious changes or additions, and it should also be renewed as fast as dirt or soap make it necessary. The cloths should be regularly dried and heated after being wetted, so as to be always ready, and a towel should be kept for the sole purpose of wiping the wet hands before taking up one of them; it is a great loss of drying power to wet the cloths with anything but the wet birds. If a bird gets cold and shivers, it should always be taken in hand and carefully warmed before being placed in the drying cage.

In conclusion, we may remark that one practical lesson from a good practical washer will be more effectual than a cart-load of instructions.

As the birds get thoroughly dry, they should be gradually moved further off from the fire. Where there are many this is generally put into another eage; and it need hardly be said that every eage into which a washed eanary is put should be serupulously clean. All being washed and cleaned up, it is best to draw a linen eloth over the eage and leave them for the night. In the morning, if time can be allowed, it is a good plan to put a flannel over the bottom of the eage and give them a natural bath, which is the surest and best way of getting the feathers quite right and restoring the natural bloom, always rather lost by washing. If, however, there is not time, or the birds will not bathe, the mouth is filled with eold water and blown or squirted into a spray through the compressed lips till they are again wringing wet-or get a spray producer from the druggist's for twenty-five eents and perform the same office. In either ease, when the birds are drenehed, remove the flamel (put in to absorb the wet), wipe the perches, feed the birds, and leave them again to dry, or they may after a drenching be run into a clean dry cage We lay great stress on clean eages, since the birds begin operations at once after a cold bath of any kind, and any dust on wires or perehes is at once transferred to the head near the beak, and spoils all. The cold bathing or drenching

process is called "fining," and is very necessary to showing birds in good bloom. They generally look their best a day or two after washing and ought to be covered up to keep them from knocking themselves about in the meantime.

EXHIBITIONS AND JUDGING.

"When birds of fine feather are gathered together, Well clothed in their colours so bright; "Tis a sight worth seeing by each human being, Not only by day, but by night."—Anon.

Bird exhibitions are quite popular in Great Britain, and are growing rapidly in favour in Canada. The most famous Bird Show in England is held at the Crystal Palace, London. At most important fall exhibitions there are nsnally various classes of cage birds shewn, included under the head of Poultry, but the increase of Cage Bird Societies, through the Dominion, proves that the study and breeding of our feathered pets is getting more important, and proving more interesting to the general public. There are Cage Bird Societies all over Canada, each of which holds an annual exhibition in winter, in addition to most of them having a "first feather" or young birds' show in summer. Underneath we print a list of the rules and regulations of one of our Canadian Cage Bird Shows:

- 1. All birds shown shall be the bona-fide property of the exhibitor.
- 2. All colour fed birds will be disqualified, except in class marked colour fed.
 - 3. Hens may be shown in every class.
- 4. Cinnamon marked birds to be shown according to type.
- 5. Entry fee—Members of Society 15c. each bird; non-members 25c. each bird. Entry fee must be sent with each entry.
- 6. Prize money—First prize, \$1.00; second prize, 50c. In case there are only 1 or 2 birds in a class, cards only will be given. Classes of 3, 4, 5 or 6 birds will receive for first prize only second prize money. All prize money guaranteed, and will be paid at the Society's next meeting, of which winners will receive due notice.
- 7. Points to count—First, 4 points; second, 3 points; third, 2 points; V. H. C., 1 point.
- 8. Should the appointed judge, through any cause be unable to fulfil his duties, the committee reserve to themselves the right to appoint a substitute. The decision of the judge shall be final, unless a protest, in writing, of fraud or wrongdoing be entered with the Secretary against a bird before 3 o'clock on day of the Show. Such protest must be supported by \$2.00, which will be forfeited to the Society if the protest be considered frivolous. The committee will deal with all protests.
- 9. Each exhibit must have selling price of same stated on the entry form. Exhibitors are not limited as to price put on their birds.
- 10. All exhibits must be at place of exhibition by 8 a.m. on exhibition day, and no entry will be allowed

to be removed from the hall before 9 p.m. of same day. Exhibitors must see that their exhibits are removed by 10 p. m.

11. The Society will not be responsible for any accident, mistake, loss or damage to any exhibits, though every attention will be given to the care of the birds.

12. All entries must be in the Secretary's hands not later than five days before show.

All enquiries and entries must be addressed to Show Secretary.

Birds intended for exhibition should be accustomed to seeing people in front of their eages, having the eages lifted and handled, and to be "rm" from one cage into another. The last is very important and easily taught, and its use is to save unnecessary eatening, which soils the birds, often damages their plumage, and we believe, by the fright it causes, often lays the foundation of heart disease—all of which might be avoided by training the birds from the first to run from one cage to the other of their own accord. The birds are arranged on stages provided by the society, but they remain in their Some exhibitors send a bit of own cages. sponge in each water-tin to avoid mischief; but if not, eare should be taken only to partly fill the tins at first so that the birds can just dip their beaks in. If more is allowed, the birds may begin to splash and drench themselves and may not be dry when the judges come around. As

soon as the class is judged, the tins may be filled up fully.

There are many towns and eities where an exhibition of birds could be arranged by the ladies, and would attract a great deal of atten-One church at Des Moines, Iowa, some time ago held an entertainment consisting of music and exercises by the children, most of which had special reference to God's most beautiful creations, the birds. Members of the congregation were requested to bring their birds, and the cages were artistically arranged in an arch over the stage and hing around the sides of the room and on the chandeliers, and their delightful sougs added melody to the evening's entertainment. Such a concert could easily be arranged anywhere, and not only will it prove an attraction, but it will teach the children to love these "litle dewdrops of celestial melody." Judging, it need hardly be said, is the most difficult work in connection with a bird show, and it requires the most experienced bird fauciers and breeders that are thoroughly honest and unbiassed to act as judges. Outsiders, as a rule, will earry far more weight and inspire more confidence than local men, for there are often a number of petty jealousies and prejudices in the district that it is best for a judge to know nothing of.

To give the reader some idea how the judges make their decision, we give below scales for Yorkshire forms, which we quote from wellknown English authorities.

CLEAR BIRDS

| Shape | -Head small and round | 5 |
|----------------------------------|---|----|
| | Neck long and straight | 5 |
| | Shoulders well filled and round. | 5 |
| | Back well filled, straight | 5 |
| | Breast round and smooth | 5 |
| | Legs long but not awkward, | |
| | thighs well covered | 5 |
| | Tail long and straight | 5 |
| | Length and good proportion of | |
| | parts | 10 |
| Position. — | -Erect and bold, fearless ear- | |
| | riage | 20 |
| | Feather—fine and silky | 20 |
| Colour. — | -Yellow or buff, even in shade, the buffs finished off with nice | |
| | surface mealing | 5 |
| Condition—Health and cleanliness | | 10 |
| | _ | |

We have never heard of any canary singing contests in Canada, but in Lancashire, England, there are many, but most of them appear to be for quantity rather than quality of song. From various reports in the Live Stock Journal we learn a few of the methods employed. At one contest each bird was allowed six minutes, and one point counted for every ten seconds a bird sang without a break. The winner scored eighteen points. At other contests five minutes and ten minutes were allowed, a point for every ten seconds of consecutive singing being allowed as lefore; while at others a bird has been allowed one point for every second over six seconds in each burst during the prescribed time.

We are glad to know that this kind of contest is gradually giving place to a more careful cultivation of the quality of the song.

The thrush that carols at the dawn of day
From the green steeples of the piny wood;
The oriole in the elm; the noisy jay,
Jargoning like a foreigner at his food;
The bluebird balanced on some topmost spray,
Flooding with melody the neighborhood;
Linnet and meadow-lark and all the throng
That dwell in nest, and have the gift of song.
—Longfellow.





THE GOLDFINCH.

"Oh! what is so pretty, so canning, so gay,
So daintily busy the liveloug day,
As my little goldfinch—beautiful pet,
With his butterfly wings, and cap of jet?
Far, far from his native bowers of bloom,
He lives a prisoner, yet feels no gloom;
For his merry glance and his sprightly song,
Tell plainly as words that he fears no wrong.

Next to the canary this may be considered the most popular cage bird, and especially is this the case in a parts of Europe. He may not be termed a righ-class songster in the true sense of the word, but one never tires of hearing his merry, wild song, and it must be unanimously

allowed that he excels in beauty of plnmage, being the handsomest of British finches. He is a native of England and most parts of Europe, and they have been imported and naturalized in Cuba and Africa.

The illustration, at the head of the chapter, shows, as well as can be done with one colour, the marking of the bird. He is a really aristocratic little gentleman. The front of the head is of most vivid scarlet, and a broad margin of similar colour surrounds the base of the beak; a black stripe passing around the back of the head and down on each side of the neck, in front of which there is a white spot; the neck and back are a beautiful brown, the feathers of the wing and tail being of velvety black with whitish tips, and having a bright golden stripe about an inch long on the wings. The female bird is smaller and not so handsome.

The Goldench, of all parlour birds, is certainly one of the most delightful, for it is a very sprightly, beautiful bird, and is very affectionate, docile, and intelligent. It is very happy in an aviary, but should not be confined to a very small cage, as he is so restless that he is searcely ever still, and is continually climbing about, trying all the wires of the cage, and twirling his beak along them. On this account he ought not to be kept in a bell-shaped cage as he is apt to grow giddy, but is a square cage from ten to

sixteen inches long. Dyson says, in his book on Bird-keeping, "He is very easily tamed, and may be safely allowed a flight around his room while his eage is being cleaned. He is eapable of great attachment to his owner, and may be taught various aimising tricks, such as firing off cannon, dragging a little waggon up an inclined plane into his cage, opening a box for his seed, ringing a bell for it, and handing up water from a little well underneath the cage; and all these he will learn very readily and without any coercion. Some of the tricks which professional exhibitors of birds make a trade by, I fear cause their canaries and goldfinches a great deal of suffering, and much cruelty is practised to make them proficient in them; but I have taught goldfinches all the accomplishments mentioned, except firing off cannon, without difficulty, and they have appeared delighted to exhibit their cleverness. One of my birds lived in a cage made with a seed box attached to the wooden back, and he always lifted up the lid when he wanted a seed, and soon grew so crafty as to take out two or three seeds at a time, and put them by his side between the wires. I taught him this in a couple of days by fastening a piece of silk round the lid and gradually lowering it till it was quite closed, and he learned nearly as soon to draw up a little silver bucket with water, from the glass which formed a well,

suspended by wires from the bow window attached to his eage. In the floor of this was a hole, across which went a narrow bridge of wood, to which a little ring was fastened, attached to a tiny silver chain holding the bncket, which was about the size of a thimble. I drew the bucket up to the bridge at first and fastened it while the bird drank the water, then let it down and refilled it, and drew it up nearly to the top, and I gradually left a longer and longer length of chain between the bridge and the bucket. The bird soon found out that he must pull the chain up into the eage, but let it go while he drank, till he comprehended the necessity of holding it with his foot; and as soon as this was made clear to him his education was finished: he hauled up a bit of the chain, put his foot on it, hanled up another length, and held that, and so on, till the bucket came to the bridge, and he could drink out of it. He never forgot the art, and was so proud of his own cleverness that he would pause to sing, after he had drawn the bucket within reach, before he quenched his thirst. This bird was never happy out of his eage, and when it was out of repair, and he had to live in a cage of ordinary construction, he pouted and moped, and was exceedingly displeased with his new abode. Of course, care must be taken that the lid of the box is not

heavy enough to distress the bird while holding it upon his head, and that the machinery of the bucket, chain and well is always in order; any hindrance to the bucket's fall into the well to get refilled would be most serious and cause the bird great suffering. A chain attached to a waggon may be drawn into the cage and held in the same manner, and the bird may be taught to ring a little bell by suspending it in a corner of the cage and leaving him without seed till he is hungry, pulling the string attached to it and ringing it and then putting some favourite food into the glass. He will soon discover that whenever the bell rings he gets his food, and will seize the string and ring it whenever he is hungry.

"The Bullfinch and Siskin will learn all these accomplishments, but canaries never understand the art of holding the chain with the foot when they have drawn it up; at least I have never sueceeded in teaching any of mine to overcome this difficulty. A mule bird, with canary and gold-finch parents, was very quickly taught it."

Goldfiniches will soon learn to come out of their cages for any l'avourite food offered to them, and to fly on the hand or shoulder to receive hemp seed, of which they are very fond, and will sometimes refuse to sing unless provided with hemp seed, but he must not have a large quantity of this seed, for it will cause blindness and excessive fatness.

Goldfinches have been known to live, confined in a cage, for sixteen or twenty years; and though they may lose their bright colours, they retain their activity and cheerfulness of dispo-Their food in their wild state consists chiefly of the seeds of weeds, groundsel, burdock, and thistle, of which last he is so fond that he is often called the "Thistle-finch." He is also fond of teasel seed (see page 43). Lettuce and a thistle head should often be given to goldfinelies; eabbage seeds he also approves of, and in confinement he should have these occasionally. In a cage he should have may seed mixed with canary and rape seed, and also about one ounce of inga seed, of which he is very fond, to one pound of the other seed. As their bill, though sharp as a needle, is in young birds quite soft, and though fond of rape and canary seed, they cannot readily crack it until they are at least two years old, it would always be well to soak a little canary and rape for them, thereby softening the hull and making it a matter of no trouble for them to crack. Be sure that it is given fresh for when soaked the rape goes sour in a few hours. And occasionally, as a reward for some trick or display of affection, a few crushed hemp seed, which he should be made to take from the hand. Most wild birds, when captured become in confinement sullen and dispirited. Want of exercise and of a peenliar kind of food so alters

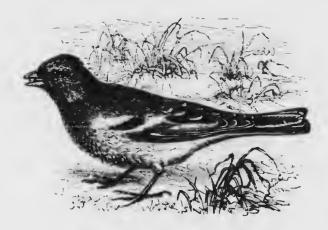
the quality of the fluids that fits and ailments ensue; and the bird mopes and soon dies. Not so with the goldfineh. After his capture he commences to feed on maw seed, mixed in equal parts with rape and canary, frisks about the cage and dresses his plumage without manifesting the least apparent regret for the loss of companions or liberty. His beauty, melody, and speedy reconciliation to confinement, render him a desirable companion; and he is captured to cheer us with his manners and voice in airs and regions very different from his native thirsty downs and apple blossom bowers.

There are many varieties of the goldfinch, shown by the difference in markings or colours of the plumage. The highest prized of these varieties are the scarlet-headed, which has the entire head colonred in rich searlet or crimson; there are no other markings to mar the brilliancy of colour on the head. This is a very rare and beautiful variety. The white-breasted Cheveral er King Goldfinch has a pure white breast and clear white ring around the neck. This variety is highly prized as a breeder of white or handsomely marked goldfineh-canary hybrids. The white-legged variety is esteemed for the readiness with which he mates with the female canary. The Black Goldfinch is a variety which is obtained by keeping the bird in close confinement in a darkened room.

The goldfinch when caged sings throughout the year, excepting during the monlting season. This song is on a high key, and agreeable, and contains many warbles, trills and twittering notes, which are intermingled in a most charming manner. The bird, during the continuance of his song is in constant motion; and these lively movements, combined with his graceful form, delicately blended colours, and sprightly song, make him one of the most attractive bird objects with which a home can be adorned. Goldfinches may be reared in cages in the same manner as canarics, their mating season begins in May.

DISEASES.—The Goldfinch has epilepsy, diarrhæa, constipation, etc., all of which may be treated in the same manner as like ailments in canaries. Decline or wasting is cured by changing the diet to richer food, giving freely apple or any fruit the bird will eat, and lean, raw, juicy, scraped beef. Giddiness may be treated by withdrawing the maw seed and feeding on soaked millet and rape seeds.

The goldfinch, if properly eared for, will live for years and keep his general friskiness or sprightly melody to the end, but some bird fanciers think he loses his bright colours as time goes on. If put near a canary it will often catch some of that bird's notes and often improve its song.



THE CHAFFINCH.

The low, sweet singing of a bird
The murmur of the breeze;
How soft would glide our fleeting hours
Blest as the sunshine and the flowers,
And calm as summer seas.

-Amelia.

The Chaffinch is one of the most haudsome birds of the small finches, being distinguished for his bright colour and active habits. They are a very popular cage bird throughout Europe, but comparatively few of them are kept as cage birds in this country. He is a native of all parts of Europe, and is not so much prized in England as in France and Germany. The forehead of the male is black; the neck slate colour; shoulders and body a reddish brown; back an olive green; the wings black striped with white. They can

be easily famed and can be reared from the nest on soaked bread moistened with water, and scalded rape seed.

In their natural state Chaffinches are partially insectivorous, and although they are fond of the young shoots of vegetables, and do mischief by eating them as soon as they appear above ground, yet they do great service by destroying numbers of insects which would be far more destructive; they are foud of the seeds of the dead nettle and groundsel. In the eage, rape seed and canary seed in about equal quantities with about an onnce of inga seed to one pound of the others, and occasionally a few seeds of hemp may be given, but too much of this seed is injurious to them. A little teasel seed now and then is a good thing. A piece of sweet apple or a little lettuce may be given occasionally as a variety, and they should have an occasional meatworm or some insects to aid digestion and keep them in good song. Aut eggs may be also given occasionally.

In confinement the Chaffinch is generally kept in a low oblong eage; a bell-shaped eage makes him giddy, and he sings less in a large cage or aviary. Their food should be kept outside the eage, as they waste it very much. In Germany chaffinches are highly valued. An ordinary workman will think nothing of giving four

dollars for a bird whose notes he considers good, and it is said he will live upon bread and water until he can save money to purchase the desired object.

His wild notes are soft and mellow, but have little variety; they are heard very early in the year, for he seems very ambitions to begin before any other of the feathered musicians have got their instruments in order.

They must have water for bathing as well as drinking. They are subject to diarrhœa and to obstruction of the oil gland. In the latter trouble, the gland, a small protuberance just above the tail, must be carefully opened with a fine needle and afterwards anointed with butter and sugar mixed together as an ointment.

List, to the merry shilfa! on the air

It sweetly trills a morning song of praise,
And flits from bough to bough, now here, now there,
Not long in any spot or posture stays;
A lively bird, that in early days,
When only fitful gleams of sunshine break
Athwart the leaden gloom, and misty haze,
That veil the infant year, will frequent make
The leafless woods re-echo to its call.
Treef, treef! a low, sweet note, and then a shrill,
And sharp fink, fink! upon the ear doth fall
Like a speech expressive of a sentiment will;
As brisk, as merry and as loved a bird
As any in the fields and woodlands heard.

-H. G. Adams.



THE BULLFINCH.

Whose household words are songs in many keys. Sweeter than instrument of man e'er caught, Whose habitations in the tree-tops even Are half-way houses on the road to heaven.

—Longfellow.

The Bullfinch is a very engaging bird, because it is so very happy in captivity, and entirely devoted to the person on whom it bestows its affections. It is a heavily built bird of rather inclegant shape, but very striking plumage: his bright red breast contrasting most forcibly with the black hood on the head and the beautiful grey on the back. The female has the breast chocolate brown, and the grey on the back tinged with brown. These birds have been known to lose their colours and turn almost black.

The natural tone of the bullfinch is objectionable, and it is only when trained that they are

highly valued. They have the faculty of imitating the song of other birds, and also learn readily to pipe a tune, being perhaps superior in this respect to any other bird, their tones being much better when tanglit from a flute. It requires time and patience to teach the bullfinch, but he well repays the effort, and soon becomes the favourite of most bird fanciers. The bird is a native of Europe. Shoemakers and tailors often make the training of bullfinches a profitable sideline, and they are taught such airs as will make them saleable, those going to England being taught "God Save the King," and those intended for the United States, "Yankee Doodle," etc. A trained bullfinch, which can whistle a few tunes, will bring a high price in Europe.

The bullfinch should be fed chiefly on canary and good sweet summer rape seed, mixed with a little inga seed or teasel seed; no hemp seed should be given. They require lettuce, chickweed, groundsel, and are very fond of watercress when moulting; they may have a clove or a rusty nail in the drinking water, egg food, or a few ants' eggs. When over-fat, scalped rape may be given occasionally. They are very fond seed and green food. A little fruit or berries of bathing. If he appears dull and melancholy give him a little maw or poppy seed, which will, in many cases, restore him to his usual spirits.



THE BLACKCAP.

Under the greenwood tree
Who loves to be with me,
And time his merry note
Unto the sweet bird's threat,
Come hither, come hither, come hither!
Here shall he see
No enemy
But winter and rough weather.

-Shakespeare.

The Blackcap has a song second only to the nightingale in power and sweetness, and it is an admirable mimic, learning the notes both of the canary and nightingale, and imitating the latter so exactly that at night its song is frequently mistaken for that of the nightingale, and is often called the "mock nightingale." Its tones are loud, sweet, and especially flute-like.

It is a small bird (about five and three-quarter inches long) considering the fullness of its song,

and its distinguishing characteristic is a jet-black cap or hood on the crown of its head. The back and wing coverts are ash grey shaded with olive brown, the pinions and tail are dark brown, edged with the same colour as the back; the breast is light grey, paler towards the throat and belly. The female differs from the male in being a trifle larger, while the cap on the head is a chocolate brown. His cage should be the same as the nightingale's, about 15 inches long, 12 broad, and 12 high, and he prefers shade to sunlight; therefore, should have a green baize roof to it. He is fond of bathing, but the bath must not be left in the cage.

His food should resemble that recommended for the nightingale, and he should be supplied with soft garden fruit, such as currants and raspberries when in season, and as a treat a ripe pear may be given. A few flies or spiders will be greedily devoured. In winter, grocers' currants soaked in water until they are soft are good.

The Black cap and most of the genus suffer from tender feet, and swellings or warts upon them. A little cold cream will cure these.



THE LINNET.

I wadna gie the lintie's sang,
Sae merry on the broomy lea,
For all the harps that ever rang
In all the halls of ministrelsie.
Mair dear to me, where bush and breer
Among the pathless heather grows,
The lintie's wild, sweet note to hear.
As on the ev'nin' breeze it flows.

-Burns.

The Linnet, either gray or brown, is a beautiful songster, and is very generally kept throughout Europe. He is of a hardy constitution, easily domesticated, a most lovely and constant singer, uttering many very sweet, flute-like notes; and if fed principally on canary and rape seed, with occasionally very few hemp seed, will remain in health.

The two birds are spoken of as two distinct varieties, but in reality they are not; for the hird which at one year old, when it has no red

feathers in the head, is a gray linnet, becomes after the second moulting, when the red on the breast takes a golden line from the yellowishwhite margins of the feathers, a yellow limet; and in the spring of the third year when the forehead is blood red, the feathers on the side of the breast the same colour, and a ferriginous tinge prevails over the whole body, the bird comes out in all his glory as a rose linnet. By and by, when age steals on, or sickness or confinement tell upon the constitution of the sweet songster, he falls from his high estate, his plumage changes, and he is a brown, gray or yellow linnet, as the case may be. There is scarcely any bird perhaps that puts on so many different dresses in the course of his life as our little there is scarcely any telling what linnet; changes each moult will produce; that is in a state of confinement; for in a natural state the bird will go through its regular gradations of plantage in a natural manner; and one may safely judge of his age by his dress; but in an artificial state it is not so.

The limet feeds on all kinds of seeds; its fondness for flax or linseed has given it its name of limet. It is also very fond of hemp seed, but must not have much of either of these seeds, their oily nature makes the bird too fat. The best food for limets is the same as canaries get;

a little salt mixed with it is sometimes useful, and green food occasionally. They are liable to surfeit from eating too much and taking too little exercise; and bread and milk, lettuce seed or two drops of easter oil put into their drinking water are the specifics for this.

The limet is fond of bathing, and of two kinds: firstly, like the skylark, in plenty of gravel (of which there must be abundance in the cage), and secondly, in water, and a bathing dish must be given daily. His diseases are similar to seed-eating birds in confinement; and the treatment must be the same.

There is not the same objection to a bell-shaped cage for the limit as for the goldfinch and chaffinch. They will live from twelve to sixteen years in confinement, and will often form great attachments to one another even among birds of the same sex.

The male limet will sometimes pair with the canary, but the mules are not nearly so beautiful as the offspring of the goldfinch and canary, though they are generally good songsters, and prized on that account.



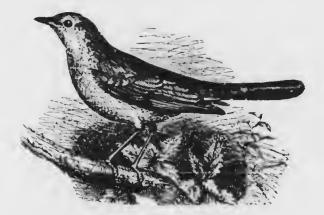
THE SISKIN.

"Come, little bird, and live with me,
You shall be happy, blithe and free;
You shall be all the world to me,
Come, birdie, come and share your glee."
—Old Play.

The Siskin, sometimes called the black-headed finch, gold-wing and barley-bird, is an European bird. It has a pretty mixture of black, green, and yellow in its plumage, and is shorter and more thick-set than the goldfinch, and a very active, lively little bird, very amusing in a cage, because it is such a mountebank, always climbing about, moving along the top of the cage, swinging by one leg, head downwards and placing itself in all kinds of extraordinary positions. It can be taught all the accomplishments learned by goldfinches, and is quite happy in captivity, besides being very useful in an aviary because

its continual twittering excites the other birds to sing. Its natural song is not powerful but sweet; but the sweetness is often interrupted by harsh, jarring notes; and although it will learn the songs of other birds, it can never be trught to whistle a tune perfectly. It drinks a good deal, and throws water over its feathers continually, so that it requires to be constantly supplied with water, though it does not often go into a bath. It should be fed the same as a canary, but with a little maw seed mixed in the seed, and occasionally a little hearp. Like the goldfinch, he is rather a greedy bird in the aviary, often driving other birds away, and he should not be fed too much. A thistle head should be frequently given to it. In sickness treat them similarly to canaries. They should not be confined to a small cage, but be allowed pienty of exercise.

MULES.—Siskins will pair readily with canaries. The offspring of the siskin and green canary are said to be the strongest birds, but males produced by the siskin and yellow canary are much more beautiful; they are generally good songsters. They often associate with limets.



THE NIGHTINGALE.

Thou wast not born for death, immortal bird,
No hungry generations tread thee down;
The voice I hear this passing night was heard
In ancient days by emperor and clown;
Perhaps the self-same song that found a path
Through the sad heart of Ruth, when sick for home
She stood in tears amid the alien corn;
The same that oft-times hath
Charmed magic casements, opening on the foam
Of perilons seas, in fairy land forlorn.

-Keats.

The Nightingale, though possessed of so sweet a song, is in phunage exceedingly unpretentious, but its form is very graceful. Its length is about six and a half inches. The whole of the upper part of the bird is a rich chestuat brown, the wings being slightly brighter; the breast is a dull whitish grey, slightly tinged with prown. The female is somewhat smaller than the male, but the difference between the sexes is hard to distinguish, and it would be well for a buyer to choose a large bird with a bold eye.

The Nightingale is the most melodions of all singing birds. The compass, wonderful variety and harmony of his voice makes him a great layourite. His very striking musical talent, surpassing all other singing birds, has acquired for him the title of the king of songsters. Many of these birds are used in Germany for training the St. Andreasberg roller canaries, as they are masters of music.

The bird is a native of Enrope, and its stay in England is only brief, namely from April to September, when it migrates south. Many of them are trapped to supply the markets of the world; comparatively few, however, are brought to Canada.

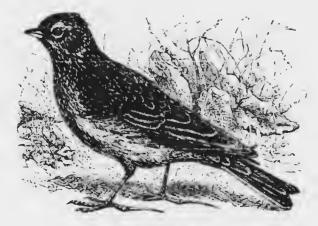
His food is the same as that of the mocking bird, but he requires more to feed him, for he is a great eater. Less than half the size of the mocking bird, he will eat double the quantity of food. You may never fear to give a nightingale as much food as he will eat. His daily bread and butter should be prepared mocking-bird food. Vary this with grated carrot, some fresh ripe fruit and berries, hard-boiled egg, ants' eggs, etc. He is fond of meal-worms, and will sing better for every worm eaten. Keep his cage,

perches and feeding dish very clean, and let him have a bath daily and keep him well supplied with bird gravel.

A gentleman who has been very successful in his treatment of nightingales, and says he has not eaten a Christmas dinner for twenty years withont the nightingale' song, fed them as follows: 7 lbs. pea meal, 2 lbs. coarse oatmeal, 1 lb. moist sugar, 11/2 lbs. beef dripping, 1 lb. honey, 2 quarts hemp seed, and 1 pint of maw seed. The dripping and honey were melted together in a sauce pan, and the meal and sugar well rubbed, so as to leave no himps in the paste; then the hemp seed (crushed) and the maw seed were added, and when cool it was put in an earthen jar. A tea cup full of paste was mixed with a hard-boiled egg, all pressed through a fine wire sieve. This was sufficient for five soft-billed birds and on this the nightingales throve well.

"The merry nightingale,
That crowds and hurries and precipitates,
With fast, thick warble, his delicious notes,
As if he were fearful that an April hight
Would be too short for him to utter forth
llis love-chant, and disburden his full soul
Of all its music."

-Coleridge.



THE SKYLARK.

Leave to the nightingale her shady wood:

A privacy of glorious light is thine

Whence thou dost pour upon the world a flood

Of harmony, with instinct more divine

Type of the wise who soar, but never roam,

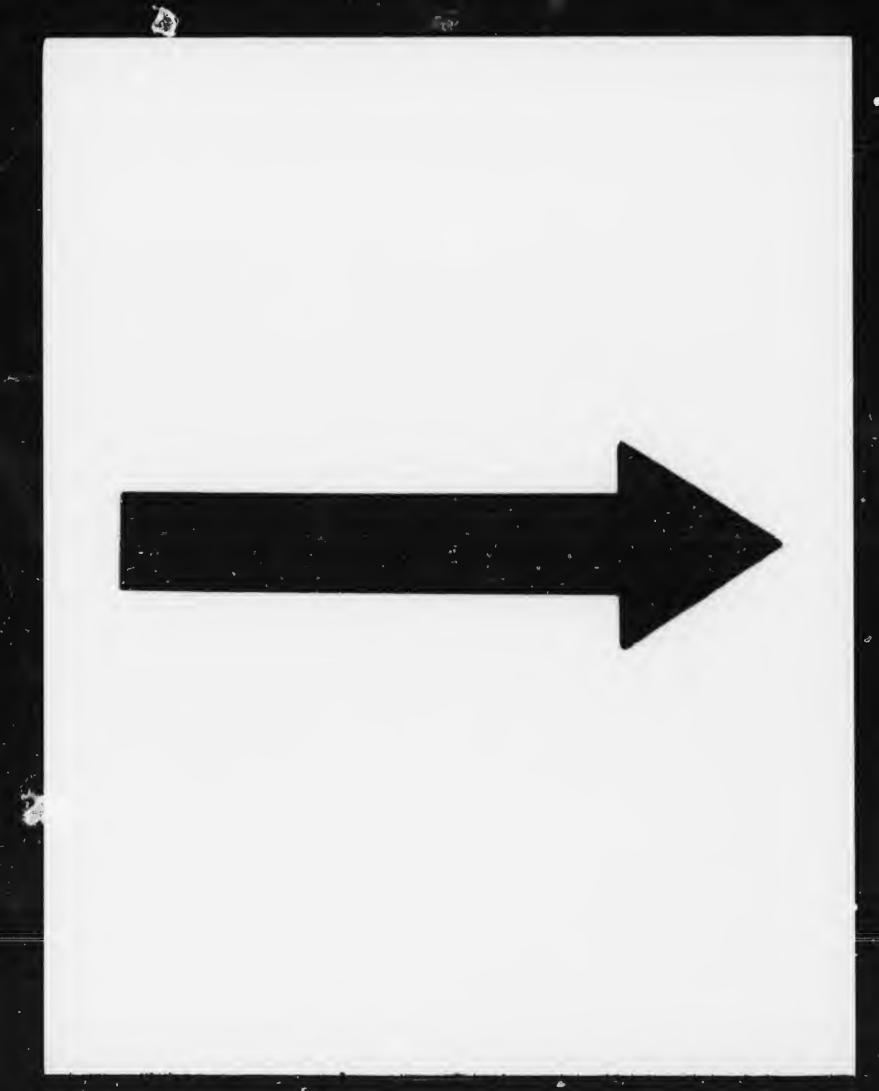
True to the kindred points of heaven and home.

—Wordsworth.

The Skylark is entitled to a prominent position in the foremost ranks of our songsters, whether we observe it soaring "from his low and grassy bed, through the clear bright morning skies," or as the pet of some family cramped in between the narrow streets of some large city. No bird seems to appeal more powerfully to Englishmen and with such sturdy eloquence. Even in its cage the Lark seems compelled to use some muscular exercise during singing, for it flutters its wings and tramples the turf as if it were once

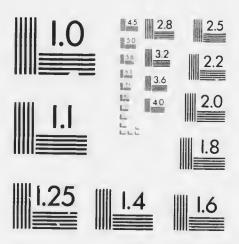
more free. As with most songsters its plumage is most impretending, being of a brown plumage three different shades on the wings and back, the breast and neck pale brown, and the feet especially formed for walking, the hind toe being long and straighter than perching birds. Skylark should have a roomy cage, long enough to allow him a run, the longer the better, and moderately high; the roof of the eage must be of green baize or cloth, and the back should be boarded. It should be without perches, and the floor must be eovered with red gravelly sand and powdered ehalk, with old mortar bruised. This he delights to roll in and dust himself with. He should have a piece of turf placed in the eircular front of the cage, this should be fresh ent, if possible, or at least three times a week; this may be kept fresh by watering it and putting it in a saucer. The food and water should be ontside the cage. Their food should consist of the yolk of egg, hard-boiled, and mixed with grated bread-ernmbs varied with a meal-worm every day, ants' eggs, sponge eake, German paste, a little lean meat now and then, watercress, lettuce, cabbage, etc.

They sing best in a eage, and this should be placed in the open air on every snnny, warm day, so that they may have plenty of fresh air. They are apt to get their feet dirty and elogged



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with hair, wood, or any loose substance of the kind in which they can entangle their long claws, if allowed to range the room or aviary; and if they are not ver, earefully cleansed they will become lame or lose their claws. Larks are subject to all the ailments to which tame birds are liable, and especially to diarrhea, for which they should have some saffron put into the water-glass, and a little grated cheese, old and dry, mixed with their food; or a little ground rice may be given them, and now and then a small spider. The Skylark has one malady peculiar to it: the skin at the root of the beak becomes yellow and scabby, and for this it should have cooling food, watercress or lettuce, and ants' eggs and meal-worms.

The Skylark is one of the best songsters of England, and English people everywhere are very fond of these birds. As you are doubtless aware, there is no such thing as a song bird natural to Australia; there are birds that chatter, birds that shrick, but no birds that sing. Among the many emigrants to the Australian gold regions was a young Englishman, who started a store in the gold sections, about two bundred miles from Melbourne. He was quite prosperons, and, like a dutiful son, wrote home for his father and mother to come and live with him, and if they possibly could, to bring with

them a lark. A lark was procured, and in due time, the old folks and their feathered charge took ship and departed from England. The old man, however, took the voyage so much to heart that he died, but the woman and the lark arrived in sound health at Melbourne, and were speedily forwarded to Mr. Wilsted's store at the Ovens.

It was on Tuesday, when they arrived, and the next morning the lark was hung outside the tent, and at once commenced piping up. The effect was electrical. Sturdy diggers, big men with hairy faces and great brown hands, paused in the widst of their work and listened reverently. Dranken, brutal diggers left unfinished the blasphemous sentence, and looked bewildered and ashamed. Far and near the news spread like lightning. "Have you heard the lark?" Is it true, mate, that there is a real English lark up at Jack Wilsted's?"

So it went for four days, and then came Sunday morning. Such a sight had not been seen since the first spadeful of the golden was turned. From every quarter, east, west, north and south; from far-off hills and creeks twenty miles away, came a steady concourse of great rough Englishmen, all brushed and washed as decent as possible. The movement was by no means concerted, as was evident from the half-ashamed expression of every man's face, There

they were, however, and their errand was to hear the lark. Nor were they disappointed. There, perched in his wood and iron pulpit, was the little minister, and, as though aware of the importance of the task before him, he plumed his crest, and, lifting his voice, snng them a sermon infinitely more effective than the bishop himself could have preached. It was a wonderful sight to see that three or four hundred men, some reclining on the ground, some sitting with their arms on their knees and their heads on their hands, some leaning against the trees with their eyes closed, so that they might the better fancy themselves at home and in the midst of English fields once more; but sitting, standing, or lying, all were equally quiet and attentive; and when, after an hour's steady preaching, the lark left off, and his andience soberly started off, a little low-spirited, perhaps, but on the whole happier than when they came.

"I say, Joe," one digger was heard to say to another, "do you think that Wilsted would sell him—the bird, you know? I'd give as much gold dust for him as he weighs, and think him cheap."

"Sell him, be blowed!" was the indignant response. "How would you like a feller to come to our village at home and make a bid for our parson?"



THE WOODLARK.

What time the timorous hare trips forth to feed, When the scared owl skims round the grassy mead, Then high in mir, and poised upon his wings Unseen the soft enamoured Woodlark sings.

The Woodlark's song is greatly prized, and by some has been assigned a rank next to the nightingale. It is a smaller bird and yellower than its relative, the skylark. The hen is a larger and handsomer bird than the male, and as it sings a little, is often mistaken for its mate. It is more easily tamed than the skylark and appears more happy in captivity. Most of the woodlarks perch; therefore he should have a square one put in his cage, but if he does not use it, it should be taken away. A cage similar to the skylark should be provided for him, long enough to allow of his running backwards and forwards. He should have a fresh cut turf, if

possible of clover, three or four times a week, and plenty of gravel and chalk. His legs are as brittle as glass, and if he gets his feet clogged with dirt or hair, etc., they must be soaked in warm water and cleansed. He sings best when allowed to range a room or aviary, but requires warmth and suffers much in moulting.

In addition to the skylark's food, the Wood-lark may have sweet almonds blanched and macerated with hemp seed and roasted bullock's heart. He is very fond of paste made of the crust of a French roll soaked in cold water for half an hour, squeezed dry, and added to three teaspoonfuls of wheat flour, half a teaspoonful of brown sugar and an onnee of grated earrot; this should be well mixed and rubbed through a sieve. All these are delicacies; the daily food must be hard eggs and bread crumbs. In its natural state the woodlark cats insects, grubs and seeds of various kinds, and green food, the young shoots of wheat, etc.



THE THRUSH.

But when the morning broke and the green woods Were all alive with birds, with what a clear And ravishing sweetness sang the plaintive Thrush; I love to hear his delicate rich voice, Chanting through all the gloomy day, when loud Amid the trees is dropping the big rain And gray mists wrap the hills; for aye the sweeter His song is when the day is sad and dark.

Longfellow.

The Thrush is deservedly a great favourite among European songsters. On account of its beautiful voice it is in great request as a eage bird. The male and female are so much alike in colour that it is very difficult to distinguish them, so that a purchaser of a thrush should make sure of its sex by hearing its song. The male bird has great imitative powers, and will readily learn tunes played on wind instruments

or whistled to him. The cage should be large, height eighteen inches, width seventeen inches, and depth twelve inches. It should have a wooden curved roof, and wooden back; wooden bars an inch apart are far preferable to wire; the perches should be placed from front to back, one in the centre of the eage, and one other on either side near the feeding and drinking troughs, so as to obviate the necessity for the bird standing on the floor to feed. The eage must be kept dry, but supply the bird liberally with water, both for drinking and bathing, but his bath must be taken away when used, as the bird is liable to cramp. A little bird sand should be sprinkled over the floor of the cage. The food and water should be placed outside the cage if possible. They should be fed chiefly on barley meal, made into a paste with milk and water, to which a little lean beef or mutton may be added three times a week, and this must be varied by occasional treats of hard egg, German paste, cheese, boiled potato or carrot, snails, meal-worms, etc. If a snail be put into the cage, a smooth stone must be put in with it for the thrush to crush it upon. He will live years in confinement if properly cared for and fed. The two ailments to which he is most subject are constipation and atrophy. For the first, a large spider is the best remedy, and for the other, abundance of pure fresh air and a change of diet should be given.



THE BLACKBIRD.

"O Blackbird! sing me something well,
While all the neighbours shoot thee round,
I keep smooth plats of fruitful ground,
Where thou may st warble, eat and dwell."

Tennyson.

The English Blackbird, as its name denotes, is jet black over the whole of his body, wings, and tail. The beak, which is an inch long, is of a brilliant yellow, showing markedly against its sable plumage. Although not so good a songster as his relative the thrush, he has a very cheery mellow song, and being a lively joyous creature, is in many respects a desirable cage bird. He will learn to whistle times with great precision, and is said never to forget a time once learned. He will also learn to imitate the songs of other birds,

the gobble of a turkey, etc. It is not unhappy in captivity if it has a large cage, perhaps because it does not live in flocks, but leads a solitary life the greater part of the year. He is foud of bathing, and may have a good deep bath daily in the snushine, but his cage must not be left wet, as he is subject to cramps; he must have plenty of dry sand or gravel on the floor. He will live in captivity from twelve to sixteen years and sing in a loud and joyons tone the whole year, except during the moulting season. His food and treatment are similar to the thrush. adding by way of treat a few garden worms, caterpillars, or any fruit that may be in season, which the bird will greedily devour and tend to keep him in health and song. Whenever the weather permits, place the bird out in the sun and he will repay all the care bestowed upon him by his keeper. He is not dismayed, however, by damp weather, as it is invariably after a shower that his song is blithest, and during the hottest days of summer he should be well shaded and kept cool, as in very dry weather his song seems to depart. He is sometimes rather eccentric in his choice of subjects for imitation, one having been known to imitate very correctly the crowing of a rooster which he would mix up in his song in rather a ludicrons manner. He requires the same food as the mocking-bird.



THE ENGLISH ROBIN.

"Art thou the bird that man loves best,
The pious bird with scarlet breast—
Our little English Robin—
The bird that comes about our doors
When Autumn winds are sobbing?
Art thou the Peter of Norway boors,
Their Thomas in Finland
And Russia far inland;
The bird who by some name or other,
All men who know thee call thee brother—
The darling of children and men?"

Wordsworth.

The Robin Redbreast is known throughout Enrope, Asia Minor, and North Africa, and remains in England the whole year. He is not the same bird as the American robin, being far smaller, the head, back and tail are of a yellowish

olive brown, and the upper part of the breast is an orange red. He is practically never seen in this country, either in the open or as a cage bird, but in England it is the greatest favourite among all classes of people. And there the only hope of seeing a time robin happy is by allowing him to come and go at pleasure, providing him with a warm habitation in winter, but not obliging him to remain a prisoner. He is not happy eaged unless he has been brought up from the nest, and is too restless and lively to submit to close quarters. If one is kept in a cage be requires the same care and attention as the nightingale. The eage should be eighteen inches long, twelve inches wide, and twelve inches high, with a green baize roof, and the perches covered with wash leather. Auts' eggs and meal-worms should be given if affected with dysentery. He may be easily taught to fly about the room, but he is of very inquisitive nature, and will hop about the table and examine everything that he sees in the room with the greatest interest.



THE STARLING.

"The birds around me hopped and played Their thoughts I cannot measure, But the least motion which they made It seemed a thrill of pleasure."

Wordsworth.

The Starling is a beautiful bird with a bright, glossy plumage, black varied with purple and green, reflected with great brilliancy in different lights and spotted with buff. It is a well-known bird in Europe, Asia, and Africa, and is common to all parts of the British Isles. The starling. in a wild state, feeds chiefly on insects, worms,

grnbs, and grasshoppers, and is often seen perched upon the back of sheep, ridding them of their parasites. In confinement it will eat raw and eooked beef, bread, cheese, and anything that is not salt or sour. His natural song is rather poor, but he has a wonderful good memory. He will learn to repeat several airs that are played to him, with great ease; nay, more: he learns to pronounce words very distinctly, or imitate the song of other birds, or any sounds when repeatedly heard. Besides this, he becomes very tame in the house, so as to be let out of his cage, and walk about the room. He soon knows all the persons in the honse, is always gay and wakeful, and as docile and emming as a dog. His food and treatment may be the same as that of the mocking-bird. He is a very hardy bird, and will sometimes attain the age of fifteen years.



THE MOCKING BIRD.

"Amid the morning's fragrant dew,
Amid the mists of even,
They warble on as if they drew
Their music down from heaven.
How sweetly sounds each mellow note
Beneath the moon's pale ray,
When dying zephyrs rise and float
Like lovers' sighs away!"

Anon.

According to some writers of the United States, the mocking-bird is, of all cage birds, the very best songster, but this opinion is not shared by most Europeans. They prefer the nightingale and thrush. The mocking bird has a very fine and melodious voice, and moreover a wonderful capacity for imitating the rotes of any other

bird and reproducing them exactly. The plumage is sober and yet prettily marked, the predominant colour being light grey with black and white marks. The male is distinguished from the female by having a white band extending over all the feathers of each wing, and forming when the wing is spread almost a crescent, whilst the female has a white mark on only the outer wing feathers. Its powers of mimiery are so great that it continually deceives the other birds, sometimes calling them round it at the supposed cry of their mates, sometimes driving them in alarm to the shelter of the thick bushes by imitating the cry of a fierce bird of prey. He can imitate the shrill scream of the eagle, the moruing note of the turtle-dove, the delicate warble of the bluebird, the eackling of the domestic hen, the mellow whistle of the cardinal, the grunt of the maternal porker searching for her young, the creaking of some rusty gate, the pipe of the canary, and the cry of some lost puppy wailing in the midnight air, and each succeeding the other with such rapidity that the listener wouders if such a variety can come from so small an object. But he is capable of all this. He is a general favourite and should be well cared for. Owing to its well developed powers of mimiery, the mocking bird is the easiest trained of all songsters.

The finest mocking birds come from Louisiana and Texas, and they seem to be larger and hardier than those hatched in the north, and frequently live to be twenty years of age. They sing all the year, except during the moulting and breeding seasons. They should have a large cage, which should be kept clean and have plenty of gravel strewed in the bottom so as to keep the feet in good order. They are very fond of bathing, and should daily be given clean water in a large bath dish.

The mocking bird will breed in confinement, but it rarely pays, and for this reason very few of the female mocking birds are sold. The young mocking birds do not develop their musical powers during the first year, but they usually begin when about a year old, and by the end of the second year are singing very nicely, and in the third year they reach their highest perfection. They are a very long-lived bird if kept free from diseases. Care should be taken not to neglect to feed the bird sufficient for his needs, may be fed occasionally a mixture of hard-boiled egg and potatoes, in proportion of two parts of potato to one of egg. They are very fond of meal-worms, grasshoppers, spiders, and insects of all kinds, and these seem to strengthen the bird and prove the best medicine which can be administered in case of sickness. The season

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when insects are not obtainable, it is well to put scalded or soaked ants' eggs and soaked grocers' currants with their mixed food. A meal-worm or two may be given about three times a week, but care should be used not to put too many in the cage, as they are very strong food. They are also found of huckleberries, in fact of all kinds of berries.

A supply of insects should be gathered during the proper season, such as flies, grasshoppers, spiders, etc., and put loosely in a bag and hung up to dry, and when used in winter they should have boiling water poured over them, which will soften them and make them as palatable as if they were alive. A grasshopper thus prepared is a thanksgiving dinner to your bird.

The prepared mocking bird food can be had from any bird dealer, but it is well to buy it from some prominent dealer, so as to be sure and have it fresh and pure. If not properly made, the food is liable to become rancid, and in this state it is undesirable for the bird. If exposed to the air the prepared food will also become full of worms or insects, and some object to feeding the food in this condition. There are many different recipes given for making mocking bird food, and very good food can be made in the following manner: Two beet hearts, boiled until they are thoroughly cooked and tender, the yolks of two

dozen hard-boiled eggs; for this purpose the eggs should be boiled for at least half an hour; two pounds of parrot crackers, or if you cannot obtain these, the ordinary soda crackers will answer the purpose. The above materials should be thoroughly grated until they are fine. Add to this two pounds of split peas and two pounds of hemp seed; both of these can be ground in an ordinary coffee mill. Thoroughly mix all of the above ingredients, and add one pound of maw seed to the mixture. A small quantity of fresh lard is frequently added to make it moist. The food may be put up in ordinary glass fruit jars to exclude from air and keep fresh. When fed to mocking birds it should be mixed with about the same bulk of fresh grated carrots or grated sweet apple.

Another recipe is eight ounces crushed hemp, eight ounces pea-meal, eight ounces corn-meal, three ounces maw seed, two onnees rice flour, four onnees beef dripping, two ounces of treacle or black molasses, and eighteen onnees of powder crackers. Mix the dripping and molasses well into the other ingredients and it will make an excellent food.

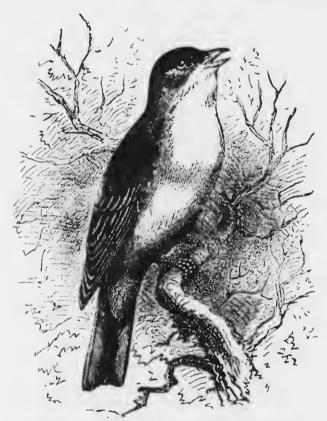
Mocking birds are subject to very few diseases, and these result usually from improper diet or from cold. They are more easily cured by giving proper care and food than by admin-

istering medicine. A live spider given to a bird will cure many of its complaints; for constipation, feed plenty of fresh green stuff, insects or worms, or give a dose of three drops of easter oil daily for three days. Stale bread soaked in boiled milk, sprinkled with cayenne pepper, will generally cure diarrhoa. The Pip is caused usually by a cold, and by examining the external skin of the tongue you will notice a white horny scale, which causes the bird to stop singing; this should be carefully removed with a sharp knife or with the finger nails, as, if it is allowed to remain the bird is apt to die. The scale should be peeled off by beginning at the base and peeling toward the tip of the tongue. Apply glycerine to the tongue after removing the scale, and feed only soft, rich food,

Lice cause great annoyance to the bird, and it is well to use insect powder in the cage frequently. The beak and claws of mocking birds often become too long, and need to be trimmed with a sharp knife or scissors, and as the bird grows old, the legs should be anointed with vaseline, glycerine, or some other preparation of like nature, so as to keep the scales from growing coarse and hard.

Experience has taught us that nine-tenths of the ailments of birds are caused by improper feeding. Bits of sugar, caudy, daily green food, grapes, butcher's meat—all are bad for a bird. Birds need plain food regularly given. The food should be mixed daily in clean vessels. A bath should be given the mocking bird each day and the vessel should be removed from the cage when the bird has bathed. You can soon teach any bird to bathe directly when you give him his bath, if you give it to him at the same hour each day. If irregular yourself, the bird will contract the same habit.

These remarks on the mocking bird food will also apply to the thrush, starling, lark, nightingale, robin, blackcap, in fact all soft-billed birds. In doctoring your sick bird, ascertain as nearly as possible what his complaint is and apply the remedy; if it does not succeed, try another. Birds have been known to be at the point of death with costiveness, when a small spider has been forced down their throats, and a large knitting-needle, dipped into oil, inserted into the passage as an injection, and the bird caused to fly a few feet, when immediate relief followed and in a few hours the bird was again in song.



THE AMERICAN BLUE ROBIN.

Never the song of the robin could make my heart so glad,

When I hear the bluebird singing in spring I forget to be sad.

Ilear it! a ripple of music! sunshine changed into song!

It sets me thinking of summer when the days and their dreams are long. —Eugene Rexford.

This bird is found in the United States and is a great favourite with the people, who often

keep boxes in their gardens and close to their houses for the Bluebird to build in, with a hole in the side for it to enter. They are very common there, but the greater number resort to the warmer parts of America, and the West Indian Islands, and even to Brazil, for warmth during the inelement season. They feed on insects, spiders, small worms, and caterpillars, and in the antumn on soft fruits and seeds. The head, neck, and upper part of the body of the male bluebird is of a bright aznre blue, with purple reflections; the quill-feathers of the wings and tail being jet black; the throat, breast, and sides of a ruddy chestnut, and the lower part of the body white. The female has paler tints of the same colouring. Its song is very lively and pleasing.

TAMING A BIRD.

And nests in order rang'd Of tame villatic fowl.

-Milton.

A siskin, goldfinch or canary can easily be tamed by cutting away more or less of the inner web of the pinion-feathers, care being taken that the bird shall have sufficient power to fly from the hand without injury. The nostrils are then smeared with any essential oil—bergamot is as good as any—which will render it insensible for a time. It should then be placed upon a finger and changed from one to another. It may fly a few times, but should be brought back, and kept upon the hand until the effects of the oil have wholly passed away, when the bird, finding no harm is intended, will sit quietly. A few crushed hemp seeds should be given for its good behaviour, and the above repeated from day to day until a satisfactory result is obtained. Hunger will speedily teach a bird to take food from the hand. Place it in a small eage, one that has a door large enough for the hand to pass through, then remove all food. In a few hours try putting a seed dish into the eage with your hand; if the bird fintters wildly about,

and refuses to accept your offering, remove your dish and wait a few hours longer. You will not be compelled to remain long in suspense, for two or three trials will generally effect a good result. After food has been accepted from the dish try your hand, and as soon as you have convinced your pupil that only from you can food be procured, and to you, and you only, must he look for all his goodies, a friendship will be formed which he will not be first to break. Birds that are desired to be tame should be talked to and made much of; they should be placed upon your writing table, and every now and again a little notice taken of them. It is surprising how soon these little fellows will learn the difference between neglect and attention. Some of the best birds which have been placed on exhibition have been those owned by tailors and shoemakers, who, owing to the nature of their business, could keep their feathered pupils constantly with them.

PARROTS.

"Fie, silly bird! I answered, tuck
Your head beneath your wing,
And go to sleep; but o'er and o'er
He asked the selfsame thing."

"Then, smiling to myself I said,—
How like are men and birds!
We all are saying what he says,
In action or in words." —Whittier.

The docility of the Parrot and the talent of some species for imitating the human voice and pronouncing words or sentences, have made parrots favourite cage birds, and sufficiently explain that, when America was first discovered. they were found domesticated by the natives, and that tame parrots have been kept as pets by the natives of India from time immemorial. No other birds become so entirely domesticated and so much attached to their keepers as parrots and none are so long lived, but many parrots utter distracting screams, which may become quite unbearable. It is well to know that, however, most parrots only scream from fear, and quite forget this bad habit when they become thoroughly tame. Their powerful beaks render parrots very destructive, and their keeper should. therefore, provide the strongest possible eages. Experience shows that the larger parrots and especially the tame ones, thrive best when kept singly in eages. Tame parrots are extremely jealous, and to place these in an aviary will

cause them often to pine or to become exceedingly quarrelsome; in the latter case they will, inflict fearful injury on each other. Almost all parrots possess very much individuality, and form strong attachments and equally strong antipathies.

In teaching or training a parrot, let the bird remain for two weeks after purchase, unnoticed, further than proper care is concerned; it will then not be so shy, and finding no harm is intended, will incline to become friendly. It is better to use only gentle means for training, and avail yourself only of some knack according to the bird's inclinations. Take away the drinking water or coffee for some hours, then hold it out to the bird, and offer also some tit-bit of which the bird is very fond, and thus the bird will learn to take food from the hand, and will presently voluntarily come on to the finger, allow its head to be scratched, and soon permit one to caress and handle it at will. Always move slowly around the cage, and never poke your finger or anything else at the bird. If a parrot starts to bite you do not jerk your hand away, but blow in its face or tap its beak or claws lightly with a lead pencil; this is sufficient to make it stop. It is needless to have a screaming parrot, as the bird can easily be taught that it is against the rules for to make an undue amount of noise. Tapping lightly on the cage with a stick, or on

the claws or bill, is usually sufficient punishment to stop the noise, though some bird fanciers make it a rule to cover the cage with a cloth or paper.

The gray parrot makes an excellent talker. As a rule a parrot will learn much quicker from a lady's voice, than from a man's, and still quicker from a child's. They learn more readily in the three hours next following sunrise, or the three hours before sunset, and should be taught just as one would teach a child "line upon line, precept upon precept." Parrots vary in age when they begin to talk, for some are slower than others and do not begin until they are several months or even a year old. Covering the cage with a cloth transfers the attention of the parrot from everything else, and its entire attention is fixed on what it hears, and within a few days after they begin they will repeat words and sentences. After once commencing well the eloth may be removed, when you are talking to it if you prefer to do so. Too much attention cannot be paid to the linking together of words forming any sentence you desire the bird to learn. Let each word glide into the next as smoothly as possible, being particular to articulate plainly, but not to make too much of a pause between the words.

There are many persons who prefer to pur-

chase a bird which has begun to talk, so they are sure to obtain one which can be taught, and for this reason talking parrots always sell at a higher price, as it is, of course, some trouble to teach them, but we consider it better to purchase a young bird, before it has learned any words, and teach it yourself, as it then becomes accustomed to your voice and learns more rapidly, and you can teach it to say just what you wish. Those that talk appear to have a great sense of fun, and will bring in the sentences they have learned to utter, in the most appropriate circumstances. Probably they observe the effect of certain phrases when used by human beings, and their powers of memory being very great, remember the proper time to make use of them. well-known story of Henry the Seventh's parrot, which on falling into the water, called out, "A boat! twenty pounds for a boat!" and on its resone, when the waterman claimed the reward, gave order to "give the knave a groat," is only one of numbers of the same kind. Another story is told of a bird who lived in a kitchen, where the mistress was very suspicious of her servants, and he used always to give her notice, -"Mary has been here," "John was here again," etc., and on one oceasion, when the mistress came unexpectedly into the kitchen, while some contraband cooking was going on, the bird called out, "Cake under the cushion, mistress!"

and repeated his speech till the hidden cake was produced. It is difficult to imagine that this parrot was not acquainted with the meaning of the words he used.

Food.—The food now very generally given to all parrots over four months old, consists of a mixture of equal parts of unhulled rice or padda, hemp, and sunflower seeds; but the effects of all food should be watched, and any one of the above which seems to disagree with the bird must of course be with neld. Probably ninety-nine parrots in every one hundred thrive on the above mixture. Give daily, if eaten, a piece of cuttlebone the size of a walnut. Parsley poisons, Never give any meat, bones or greasy food of any kind, as they eause diseases, and ruin the plumage. Dainties from the table are usually indigestible and harmful. Fruits, such as apples, oranges, bananas, cherries, ean be given, but only those proper for your special bird should be allowed in limited quantity. A vegetable redpepper pod ean be given every week or so, and is particularly desirable during the moulting season. A piece of raw onion, half the size of an egg, acts as a good tonie. Cracker, or stale but good bread, dry, or in water, is good daily; water should always be given luke warm. Silver gravel in abundance should be given fresh daily for eating and bathing. The cage or stand should be cleansed with water, or soap and water,

every third day, and oftener if necessary. Bathing in sand is usual, water is unusual, for parrots; but water baths should be given according to the health and needs of the bird, one to three times a week, through the year. Use from a pint to a quart of tepid water, in which a teaspoonful of borax has been dissolved, spraying the bird with the coarse atomizer which holds a half-pint. If a teaspoonful of wine is afterwards thrown on with a small atomizer, the plumage will become glossy and beautiful.

The grays, like most of the larger parrots, sometimes live from fifty to seventy-five, and even one hundred years.

| | Intelligence. | Ability to learn to talk. | Ability to learn to sing. | Whistling. | Beauty of Plumage. | Tameness. | Total. |
|--|---|--|--|-----------------------------|------------------------|-------------|--|
| Gray. Mexican Panama Carthagena Amazon Blue-front Maracaibo Cuban Dwarf Macaw Cockatoo | 10 10 10 7 8 6 6 6 6 7 | 10 9 10 6 8 5 6 6 6 5 | 5 10 9 6 5 5 6 - 5 | 10 5 6 3 3 3 | 8 8 8 7 8 5 4 6 4 10 7 | 99978689968 | 52 54 52 36 40 27 28 33 30 33 25 |

In the above comparative table, 10 is the highest figure under each heading, and the total number of points is 60.

If parrots are properly fed and their eages or stands kept clean, they remain in good health during a long life of from fifty to a hundred years—the principal diseases affecting birds not properly attended to are as follows. (Use your judgment about increasing or diminishing the number and quantity of the doses.)

Cold.—Keep the bird in a very warm place, and give a few bird peppers; into a glass of water put ten drops of aconite, and every honr pour a teaspoonful down the bird's throat. Sec-

remedy: Clean the bird's nostrils with a feacer dipped in salt water, and then moisten them with the oil of almonds or inject warmed liquid glycerine. Rub the beak and throat externally with a solution of chlorate of kali one part, and twenty parts of hot water; let the bird inhale tar vapour, putting the tar in a bottle, one part of tar to twenty-five parts of hot water.

Inducestion.—Give a plain, light diet of unhulled rice, and a few hemp seeds and plain boiled rice; but little green food or fruit, some salt, and tepid drinking water, with a teaspoonfull of lime water in it; a teaspoonful of warm Bordeaux wine can be poured down the bird's throat.

Constitution.—Use warm castor oil and olive oil in equal parts, dropping it into the vent or passage from small syringe; after several re-

petitions, large masses of excrement pass away; give a dose of ten drops of castor oil, with half a teaspoonful of honey, once or twice a day. Feed hemp and sunflower seeds in equal parts.

Diarrhoea.—Keep the bird in a warm place, feed unhalled rice, and give a half cracker soaked in brandy, on which sprinkle red pepper. In severe cases, put five drops of paregoric into a teaspoonful of boiled milk; soak a piece of stale bread or pilot cracker with it and sprinkle with a pinch of pulverized chalk and feed this every three hours.

BLOODY DIARRHOEA.—Give four drops of landamm in a teaspoonful of boiled milk every three hours. Give no fruit or green stuff, and no water. Keep in the cage the bread and chalk soaked in boiled milk with the landamum and from 6 to 10 drops of brandy.

Dysentery.—Treat as for diarrhea; and give also one-half to one teaspoonful of castor oil, with ten drops of honey. The sticky feathers under the tail should be washed with warm water and anointed with vaseline.

Vomiting, when caused only by fright or anxiety, or overeating, has but little significance; but when arising from inflammation of the stomach, and accompanied by weakness, shivering, loss of appetite, or bloody discharges, should be treated as follows: Apply warm or nearly hot

ponlitices of bread or flaxseed to the belly; also apply sand as warm as is pleasant to the hand. Give terspoonful doses of a solution of tannin, two parts to seventy-five or one hundred parts of warm water two or three times a day. Parrots sometimes display their affection by regnigitation, bringing up their food in the same manner as when feeding their mates or young.

Pulling the Feathers.—This is eaused usually by improper food, too much sunflower, meat, or bones, and too close confinement. Feed hemp seeds, unhulled rice and plain canary seeds mixed, and plenty of plain boiled rice. Keep plenty of gravel in the cage, and a constant supply of wood for the bird to gnaw. Amuse the bird by giving spools and a "robust" china doll to play with. Put a half-teaspoonful of glycerine to a teacupful of tepid water, and spray the bird thoroughly six to ten times daily, using the full dose each time. Give apple or banana every day.

Cutting.—Beaks and toe-nails will sometimes become overgrown, especially in the ease of old birds, and must then be ent. The operation is not a very difficult one, but nevertheless requires a little tact to perform it properly. The implement for the purpose may be either a sharp penknife, a pair of cissors, or best of all a gold-smith's pliers, such as is used by watelmakers.

The bird is, if a large one, wrapped closely in a towel, and held firmly by one person while the other proceeds to pare away the redundant portion of the mandible or claw as the case may be, taking care not to go too near the quiek, or sensitive part of either the nail or the beak. A small bird may be held in a person's left hand and the operation be performed with the right hand.

It is quite easy, when one knows how to do it, but the removal of overgrowths of either bill or nail should not be attempted by anyone who is in the least degree nervons, or who does not feel perfectly competent to do whatever is necessary.





THE GRAY PARROT.

"He will be talking."—Shakespeare.

The best known and most popular Parrot is our domestic pet, "Polly," the gray parrot from Africa with ashen gray body, black bill, light gray face, and searlet tail. Until the bird is a year old the body plumage is a darker gray, and the tail dark brown, excepting close to the body where the crimson shows a little. The birds var, from twelve to fifteen inches in length, about the size of a common pigeon. They are brought to America, generally from their

home in West and Central Africa, either by steamers via England, or direct in sailing vessels. The birds in sailing vessels are preferred, because they get acclimated in the longer trip. Dozens of Gray Parrots on steamers are often packed away like merchandise in any old box, without much regard to health or ventilation. As a result gray parrots can often be bought comparatively cheap. Young birds are worth from fifteen to twenty-five dollars, and talkers from twenty-five to seventy-five, and extra fine talkers more than that. An acclimatized tame gray parrot, although costing more, is cheaper than a raw young bird. Young gray parrots can be distinguished by their gray eyes, the eye of old birds being straw colonred. Male and female are alike and equally endowed.

CAGE OR STAND.—This parrot should have a cage fourteen or fifteen inches in diameter, or fifteen to twenty-four inches long, but larger ones can be used, or a stand of the usual style. Generally parrots do not talk as well if allowed about a room, and are apt to find something to cat which is injurious.

For food, care and diseases see the chapter on Parrots.



GREEN PARROTS.

They adways talk who never think.

Matthew Prior.

There are many varieties of green parrots, among which are the following:

The Double Yellow Head of Mexico which many fanciers consider to equal in ability and intelligence the African Gray, he is considered the operatic star of the parrot family, his natural gift of song is great, and his voice is clear and ringing, and many stories are told of their singing powers. The Mexican is of a beautiful green throughout the body, with a pale orange forchead, and searlet and blue feathers in wing and tail, his feet are strong and white, his beak is white, his tongue may be white, black, or mottled. His length is from fourteen to sixteen

inches, being a somewhat longer and thicker bird than the gray parrot. As the birds get older, the pale orange colour of the forehead deepens and extends back over the head. These birds are not only great singers but free talkers as well, learning many words when taught for three months or so, and are most amusing at times by their manner of mingling songs and speeches. The grays and these Mexicans are the most enjoyable birds to own, because most intelligent and teachable.

Cage, food and care are the same for the Mexican as for the gray.

The Carthagena Parrot is from thirteen to fifteen inches long, being about the size of the Mexican, and has all green plumage, except on the back of the neck, a pale orange marking about the size of a silver half dollar; and in the wings and tail feathers red and blue markings. This bird becomes quite a singer, whistles some and talks very well; he is generally next to the Mexican, and his food and care are the same as that bird's.

The Single Yellow head is smaller than the Donble Yellow head, being from eleven to thirteen inches long, but has the same colours and markings as that bird, except the beak is dark, instead of flesh colour, and the narrow pale orange stripe on the forehead does not extend as

the bird grows older. This bird makes a fair talker, learning easily, but not so many sentences as those named above. His food and care is the same.

The Blue Front Parrot is twelve or thirteen inches long, with plain green body and blue forehead, and slight red and blue markings in the wings. He becomes a fair talker. His food is same as above.

The Cuban Parrot is ten to twelve inches long, with green body, white forehead, scarlet throat, and scarlet and blue wings. These are imported when three months old, so they are tame, and very teachable, becoming quite good English scholars. The food is the same as above.

The Maracaibo Parrot is ten or eleven inches long, with greep body, forehead well marked with yellow, and wings having some blue, yellow and red markings. He looks like a small edition of the Mexican, and sometimes makes an excellent talker. His food is the same as above.

The Amazon Parrot is a native of the upper portion of South America. He is not quite as large as the Mexican, his light green body and brilliant head-dress of blue and yellow, throat of orange tinged with red, scarlet tipped wings and parti-coloured tail, make him very attractive. He is an apt scholar, and easily learns to talk and sing. Food the same as above.

BREEDING CHART.

| | NECT | EGGS | No. | No. | No. | No. | DESCRIPTION OF | |
|-------------|----------|------|---|---------|---|---|----------------|-----|
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| MALE | G | | | | 0 | | | |
| FEMALE | 4 | : | | | | : | | |
| | | | | | | | | |

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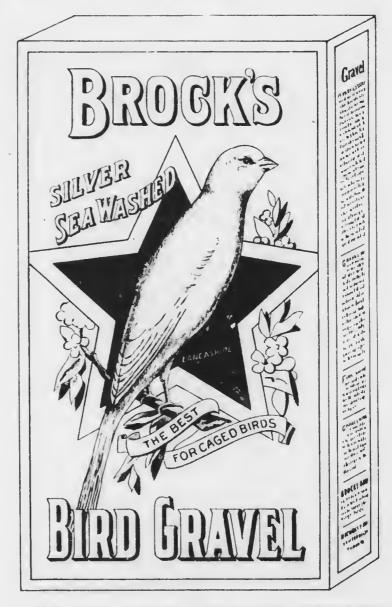
TEASEL SEED BIRD TREAT

SEA WASHED GRAVEL

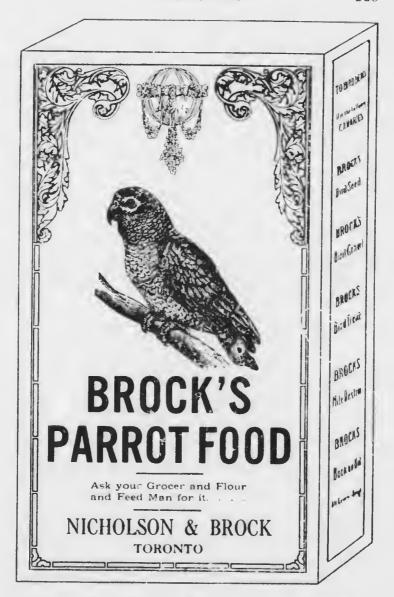
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